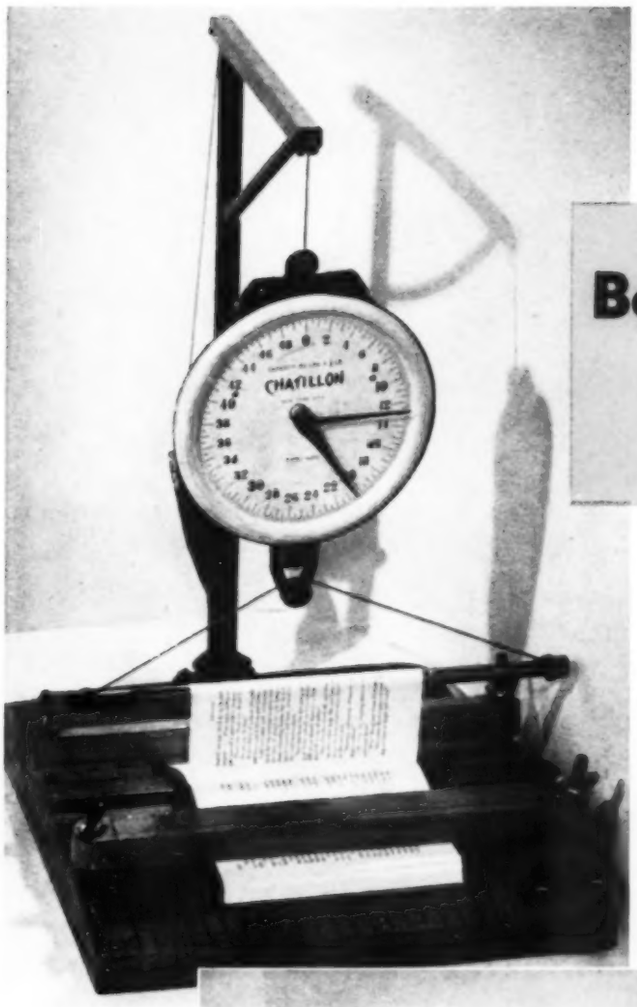
PRINTING EQUIPMENT Engineer



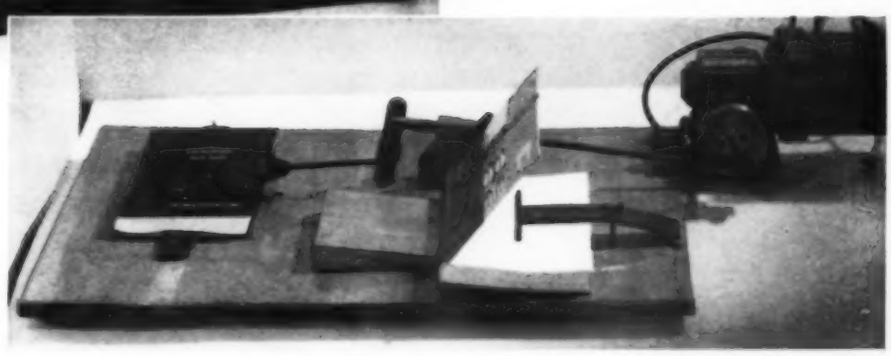
Book Torturing Machines

(Turn to Page 5)

Technical Evolution Evidenced at ANPA Conference

Eight-Color Web Offset Press Viewed

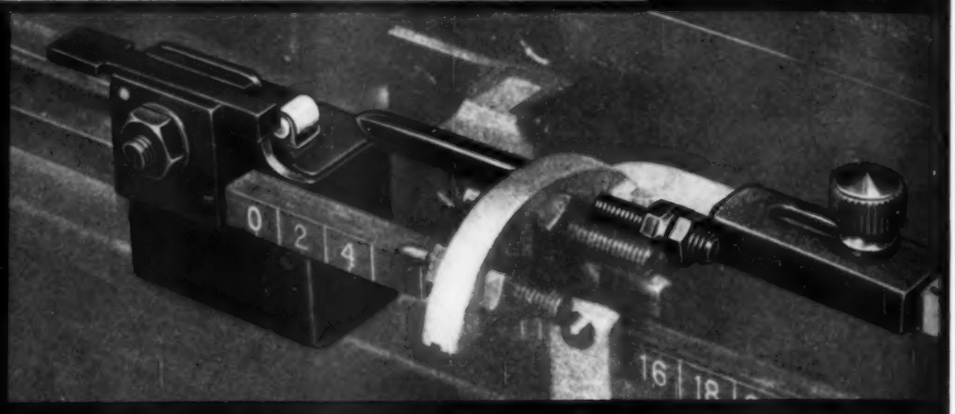
Equipment and Supplies for the Printing Industry



Please Pass On To:

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

SHORT LINES QUAD AUTOMATICALLY ON THE Star Selectro-Matic Quadder



When the Star Quadder Selector is in "left flush" position, full lines justify, but all short lines will flush left automatically. The operator does not have to set quads to fill the white space. This Selectro-Matic feature is particularly useful in setting straight news matter and in longer measure book work, where widows of one or two words are encountered.

This same Selectro-Matic feature is available in the other quadding positions—center and right flush—making it a valuable time-saver when setting imprints, general commercial advertising and classified ads.

To find out more about the many other Star Selectro-Matic Quadder advantages, just write for this 8 page brochure.

Precision TRADE ★ MARK Parts

STAR PARTS, Inc.

SOUTH HACKENSACK, N. J.

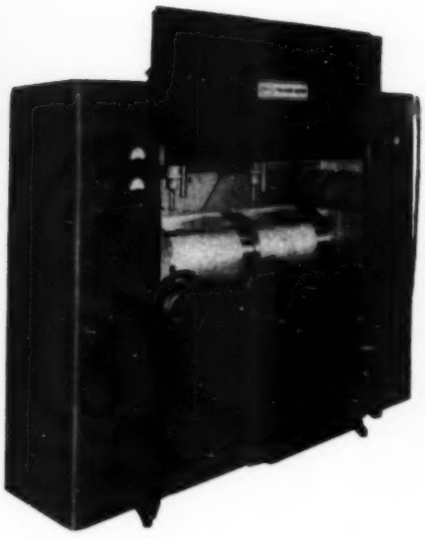
BRANCH: 1327 BROADWAY, KANSAS CITY, MO.

AGENCIES: CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • SO. ACTON, MASS.

CANADA: SEARS LTD. AND AGENTS OVERSEAS

For More Information Circle 167 on Reader Service Card

we've got the "show" on the road . . .



STA-HI TWIN-PLATE ROUTER

Sta-Hi's new Twin-Plate Router that was a "stellar attraction" at the ANPA Mechanical Conference in Chicago, is now in production.

It is "limited production", however, because expanded manufacturing facilities at the Sta-Hi factory will not be available until early in 1958. Meanwhile Twin-Plate Routers can be manufactured only on a small percentage of normal schedule for the rest of this year.

Firm orders already received have accounted for more than 75% of 1957 production. All orders are being filled strictly on a "first-come first-served" basis.

If you plan earliest possible installation of this fast, safe, economical equipment for simultaneously routing two identical newspaper page plates, we suggest you get in touch with us or an authorized Sta-Hi sales agent promptly.

A bulletin giving a detailed description and specifications of the Twin-Plate Router is available at your request.

STA-HI CORPORATION

. . . *probing new horizons in newspaper production*

FACTORY AND OFFICES: 235 W. WASHINGTON BOULEVARD, WHITTIER, CALIFORNIA

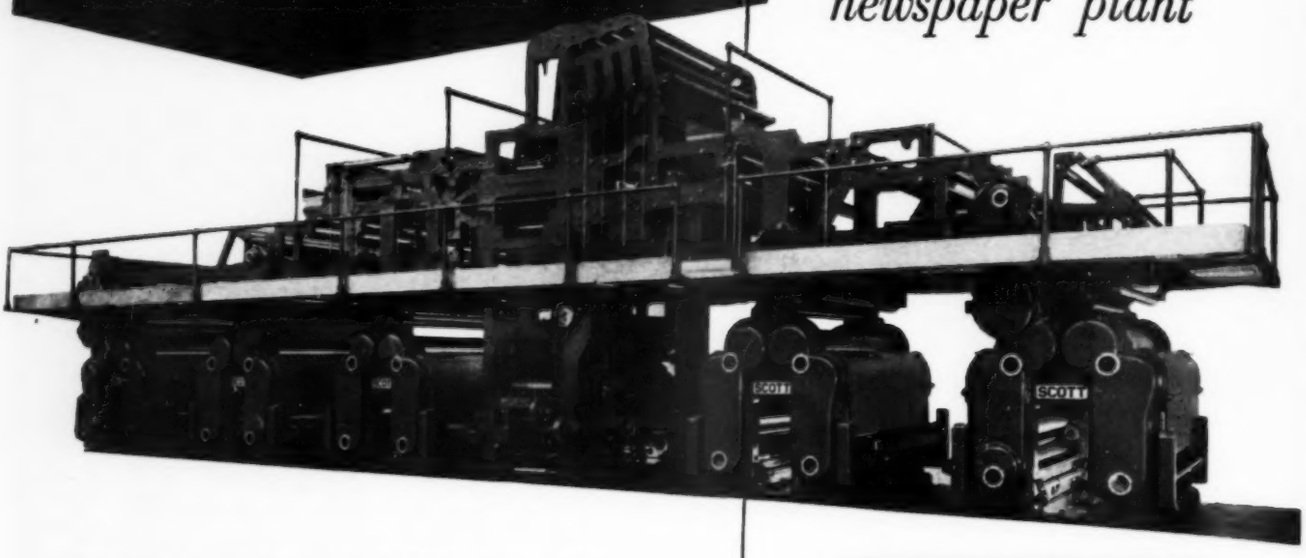
For More Information Circle 165 on Reader Service Card

ADDITIONAL
COLOR ADAPTABLE

INSTALLED AT

THE DALLAS TIMES HERALD

Now...a total of 20 SCOTT units in operation at this busy newspaper plant



These additional units include many tested new features such as the famous Scott "folded edge forward" 3 to 2 folder. Provision is made for Spot or 4-color printing with six full width divided color fountains and waist-high ink adjustments.

Press is equipped with two double reverse drives and three single reverse drives. Each unit is driven by two upright shafts. A single throw of a lever renders one-half of the unit non-operative, or reversed, and all gears remain properly meshed.

Any number of these highly efficient and versatile units can be arranged to suit the needs of any newspaper plant...yours perhaps? Send for literature.

Wood

WALTER SCOTT & CO.

DIVISION OF **WOOD NEWSPAPER MACHINERY CORPORATION** Plant: Plainfield, N. J.

EXECUTIVE & SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, NEW YORK

For More Information Circle 156 on Reader Service Card

FOR YOUR CONVENIENCE . . .

This postage-paid card is for your convenience in requesting more facts on any item in this issue

PRINTING EQUIPMENT *Engineer*

FIRST CLASS
PERMIT NO. 2235
CLEVELAND, OHIO

BUSINESS REPLY CARD
No Postage Necessary If Mailed in the United States

4¢ POSTAGE WILL BE PAID BY

PRINTING EQUIPMENT *Engineer*
1276 WEST 3rd STREET
CLEVELAND 13, OHIO

READER SERVICE DEPARTMENT

This postage-paid card is for your convenience in requesting further information on any item in this issue of PRINTING EQUIPMENT Engineer. Circle the item number for any item described or advertised in this issue. The information will be sent to you promptly.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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PLEASE PRINT OR TYPE

Name and Title_____

Company Name_____

Company Address_____

City_____ Zone____ State_____

JULY '57

WANT MORE FACTS?

USE THE CARD

IT'S EFFICIENT, FAST AND EASY

"Not a slip or skid accident since we put it in"

The ALGRIP safety story *is* a good one. This exceptional safety floor plate—the world's *only* abrasive rolled steel floor plate—provides super-safe footing under the *most hazardous* slipping conditions.

ALGRIP is made by a patented process during which grinding-wheel type abrasive particles are rolled—not coated—to a controlled depth as an integral part of tough steel plate. Usage merely exposes more abrasive particles which act as tiny, yet powerful traction grips.

Make a test installation in your worst slipping area. Use it as an overlay or as independent flooring. ALGRIP fabricates easily, requires minimum maintenance, and will pay for itself through reduction in accident and insurance rates.

ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send me A.W. ALGRIP Booklet AL-830

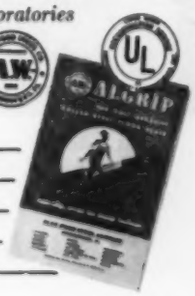
Name_____

Title_____

Company_____

Address_____

City_____ Zone_____ State_____



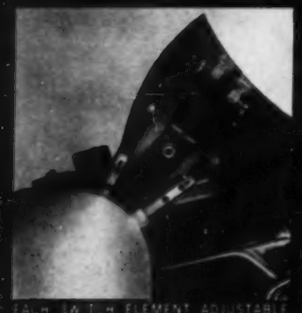
OTHER PRODUCTS:
A.W. SUPER-DIAMOND rolled steel floor plate—Plates—Hot and cold rolled sheet and strip—(Alloy and Special Grades)

For More Information Circle 4 on Reader Service Card

WOOD AUTOMATIC AUTOPASTERS

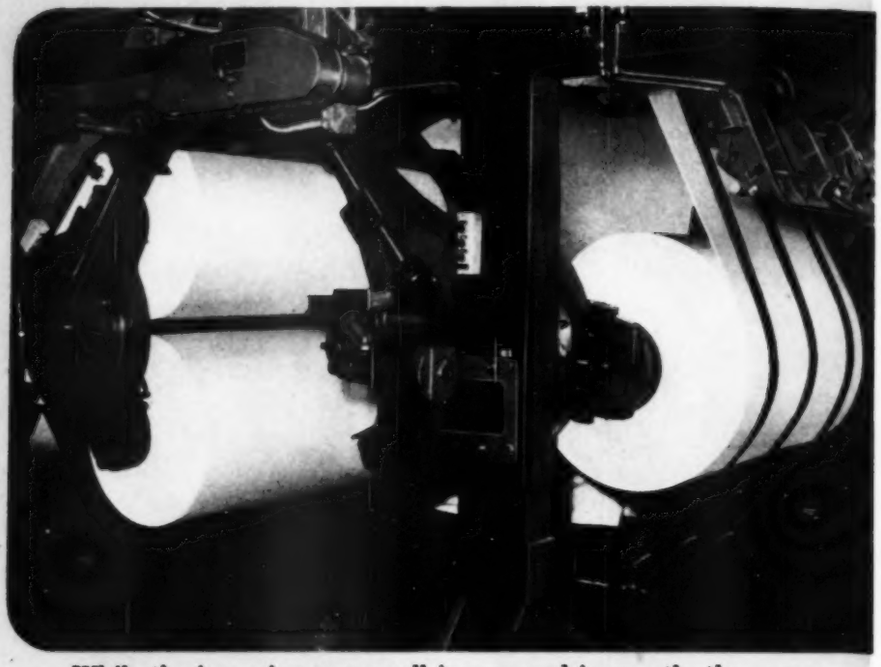
provide AUTOMATION in the reelroom

DUAL BUTT SWITCH HAVING ONE LONG AND SHORT ELEMENT MOUNTED INSIDE SPIDER OF REEL



EACH SWITCH ELEMENT ADJUSTABLE SEPARATELY TO DETERMINE WHEN EACH OF THE TWO STAGES OF THE SPLICING OPERATION TAKES PLACE

WEB ROVING INTO PRESS FROM ROLL REACHING DIAMETER AT WHICH FIRST STAGE OF SPLICING OPERATION TAKES PLACE



While the incoming paper roll is prepared in exactly the same manner as is being done presently, the actual making of the splice is performed *automatically . . . without any pushing of buttons* by the operator.

If the condition of the running roll indicates that the operator should take charge of the splicing operation, he may do so by merely pushing the proper control buttons. Fully automatic splicing is resumed on subsequent rolls without further attention.

The butt switch is adjustable so that a minimum number of paper wraps are left on the core, thereby reducing the percentage of butt waste.

These Automatic Operating Devices are available for new and existing Autopaster installations.

FIRST SWITCH ELEMENT FUNCTIONS WHEN EXPIRING ROLL REACHES PROPER DIAMETER TO START FIRST PHASE OF AUTOMATIC OPERATION

SECOND PHASE OF AUTOMATIC SPLICING STARTED WHEN CORE REACHES MINIMUM DIAMETER, PERMITTING SECOND SWITCH TO INITIATE FINAL PHASE

FINAL PHASE OF SPLICING OPERATION TAKES PLACE BY JOINING BOTH WEBS AND SEVERING WEB FROM BUTT

SPLICE COMPLETED, BRUSH ARM RETRACTS AND NEW ROLL BROUGHT INTO NORMAL RUNNING POSITION

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N.Y.

MAKERS OF PRESSROOM, REELROOM AND STEREOTYPE EQUIPMENT FOR A CENTURY

For More Information Circle 190 on Reader Service Card

JULY 1957
VOLUME 87 NO. 10

PRINTING EQUIPMENT *Engineer*

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in all major processes of the Graphic Arts industry.

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Member Publications BPA Business Audit

Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: The term, book torturing machines, readily describes the nature of the devices in use at Kingsport Press, Inc., Kingsport, Tenn., pictured on this month's cover. Because Kingsport Press does care how its products "behave" after they get into consumers' hands, a series of tests has been devised to determine leverage, stresses and strains of a book. The firm produces over 30 million books annually. The leaf strain machine (upper left) is used to test tearing strength at the binding edge. Two tests are simultaneously performed in the lower view. One for testing the bond between cover and book at the hinge; the other for testing the bond of the adhesive and lining materials on back of book. Any book is considered well bound if it withstands 20,000 openings on this machine.

Equipment & Supplies

If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Equipment Engineer's* Reader Service Card found in this issue.

Dispenser for 3M Makeready—A handy dispenser for its 3M brand makeready stock has been marketed by Minnesota Mining and Mfg. Co. The dispenser (50 in. wide) is large enough to accept all widths of the makeready rolls. It is all metal with predrilled holes for mounting on a wall or table top. Circle No. 7-258 on Reader Service Card.

Ace Graytone Inking Roller

An all year-around roller which, it is stated, requires no special care in summer and no warmup time in winter, the Ace Graytone has been made available to the trade in general by Ideal Roller & Mfg. Co. Designed for job and small high speed letterpresses, this roller is built on a disposable core so that no core exchanges are necessary.

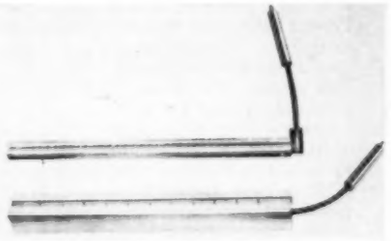
The gray color is helpful in determining whether rollers are clean when starting a particular job, wether rollers are properly inked and if in need of ink during the run.

Ideal states that by a special process a perfect bond is obtained between the soft, pliable base and the thin synthetic rubber face which is so applied that the synthetic surface cannot be removed except by grinding. The surface can be buffed or ground as required.

Further claims are that with a good washup the ink can be changed from linseed-base, heat-set or water-base inks to bag or inexpensive black inks and back again. Circle No. 7-260 on Reader Service Card.

Static Eliminator Bar

The Simco Company announces a new static eliminator bar, called the Super Service Static Bar, which is described as square in cross-section and totally encased. Sponsor claims the bar is designed to require no maintenance other than an occasional brushing or blowing off of the points. It is especially adaptable to use in



dirty locations. The unit is made in two cross-sectional sizes: ⅝ in. square in short and medium lengths up to 60 in.; 1¼ in. square in spans up to 12 ft. A complete static eliminating system consists of one or more of the static bars connected to a power unit operating from a.c. service. The bars are mounted across a machine (press, folder, etc.) in selected locations, so that the material to be discharged passes near, but does not touch, the bars. Circle No. 7-268 on Reader Service Card.

Measuring-Calculating Rule

A slide rule device for proportioning, measuring and transposing has been announced by Richard Picard. To be marketed under the name of Scalerule, the ruler is designed for figuring all sorts of calculations necessary in the Graphic Arts.

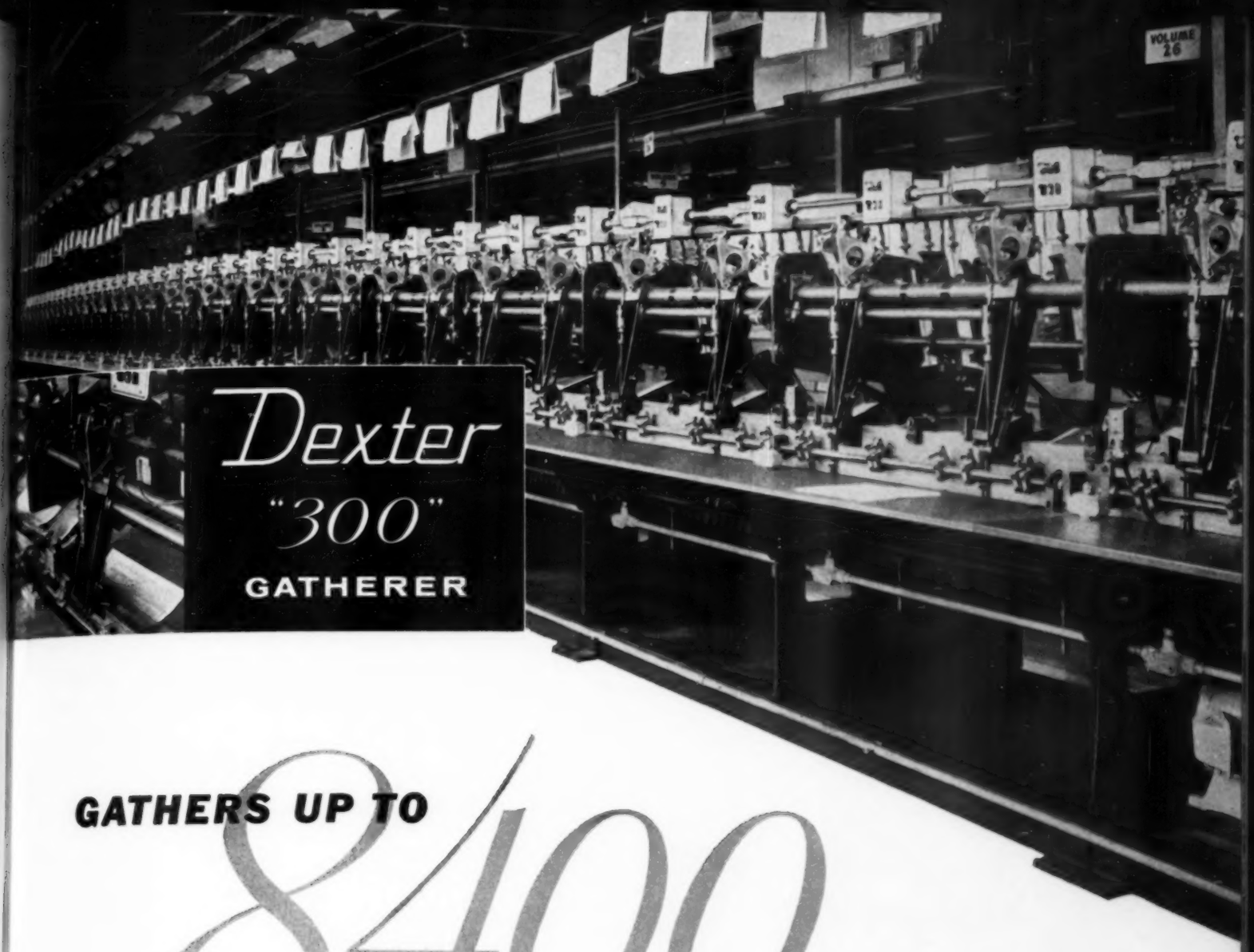
There are scales on the device for measuring inches, picas, agate lines, and 6, 8, 10 and 12 pt. rules. The user of the Scalerule may also transpose agate lines to inches (or inches to agate lines), picas to inches (or inches to picas), and picas to agate lines (or agate lines to picas). Another use is for proportioning in both inches and picas which includes reducing and enlarging to a given size, as well as the percentage of the proportion.

(*Continued on Page* 10)

Printers using Ludlow retain all the values of good hand spacing. The projecting "ears" of Ludlow space matrices make them easy to handle. Correct spacing between words and letters is readily visualized, and thin spacing and letterspacing are easy and simple. A turn of the thumbscrew holds the line for casting.

Ludlow Typograph Company 2032 Clybourn Ave., Chicago 14

For More Information Circle 107 on Reader Service Card



Dexter "300" GATHERER

GATHERS UP TO 8400 SETS PER HOUR!

There's really only one way to fully appreciate all of the advantages and productive ability of the fast Dexter "300" Arm Gatherer and that's to see it in actual operation. But before you do here's a quick "preview" of a few of its features.

It's built on the Unit Construction principle in four-pocket sections, which means you can install just the number needed initially and add sections as volume grows, up to 48 pockets. Lightweight construction in the oscillating gripper arms—*where it's necessary*—reduces vibration to the minimum which means longer life and consistent accuracy at high speeds. And of course, the "300" has speed—*up to 8400 signatures or sheets per hour!*

There are other features too...many others, all combined to accomplish one objective—fast, efficient gathering and more profits for you. But, as mentioned above, the only way to appreciate all the advantages is to see the Dexter "300" Gatherer perform. Call your Dexter representative and have him arrange a demonstration. And if you want more of a "preview"...

Write or call today for our descriptive folder

DEXTER FOLDER COMPANY
DIVISION OF MIEHLE-GOSS-DEXTER, INC.
219 East 44th Street, New York 17, New York

For More Information Circle 49 on Reader Service Card

NOW!

3M SALES & RESEARCH SHATTER 3M MAKEREADY PRICES!

Now you can increase production... assure electronically-controlled quality on all halftone jobs ...*at a lower cost than ever before!*

Here's a pressman's dream . . . a precision electronically-controlled makeready that allows *automatic* dot-for-dot pressure correction . . . replacing the tedious and costly hundred-year-old handcut method.

And now, the 3M Makeready sales organization and research team announce new production developments that cut the price of 3M Makeready material 30%. This new *low* price means you can realize further savings on all your halftone work.

In the hands of your qualified, expert pressmen, 3M Makeready means greatly increased timesaving (30 minutes or less on the most difficult halftones) and greater production. With productive press time up . . . with makeready costs fixed and known . . . with superior, *electronically-controlled* quality . . . you can make more exact, more favorable bids. Advantages like these mean more and better business for you and your pressmen. It's a forward step in letterpress you should be taking—for further, factual information, write: 3M Makeready, Dept. NF-77, Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota.

3M MAKEREADY
BRAND

"3M" is a registered trademark of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota. General Export: 99 Park Avenue, New York 16, New York. In Canada: P. O. Box 757, London, Ontario.

Hoe couples reverse fast!

Now you can reverse either the right—or left-hand couples from one convenient spot, on one side of the unit—and with just one tool. No covers or parts have to be removed . . . no more time lost running back and forth. This is the kind of innovation that *really* saves time. It's all made possible by Hoe's new, exclusive, drive and clutch.

This is how Hoe does it: all drive gears are located on one side of the unit; backlash is minimized and better color registration assured. The new Hoe clutch allows the unit to be silenced in a hurry, without effort. The reversing mechanism cannot operate incorrectly—its mechanical interlock is absolutely foolproof!

Carefully engineered components like these are a 'must', if printing costs are really to be cut. Advanced features are characteristic of Hoe's aggressive leadership in the field. That's why a Hoe press is a wise investment—beyond all question. It will pay you to get in touch with Hoe.

R. HOE & CO., INC.
910 East 138th Street, New York 54, N. Y.
BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

For More Information Circle 87 on Reader Service Card

←For More Information Circle 120 on Reader Service Card

For Newspaper Printing Production

Our expansion and increased facilities were designed with three things in mind . . . .

MORE DIVERSIFIED AND MORE COMPLETE INVENTORIES of equipment and supplies for your composing room, stereotype department, press room and photo engraving department.

EVEN FASTER PROCESSING AND DELIVERING OF ORDERS made possible by the most modern equipment and methods, plus the most experienced and enthusiastic staff to handle your orders accurately. . .

MAXIMUM ECONOMY ON ALL CATEGORIES OF SUPPLIES AND EQUIPMENT, consistent with the very highest in *proved* efficiency and quality. Every item at Eastern has been tested and found *best for the job!*

Place your order from Eastern's new Catalog No. 20!

ENS EASTERN FOR ECONOMY

EASTERN
NEWSPAPER SUPPLY, INC.
96-03 NORTHERN BLVD., CORONA 68, NEW YORK

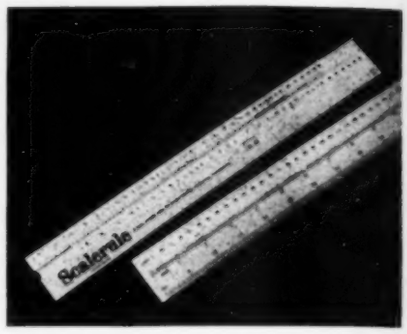
For More Information Circle 55 on Reader Service Card

Equipment and Supplies

(Continued from Page 6)

Finally, the device may be used for multiplication, division and square root calculations.

The 12 in. plastic slide rule is equipped with proportioning scales up



to 30 in. and 180 picas. One interesting use of Scalerule pointed out by Picard is that it enables the user to proportion square inch areas and determine dimensions simultaneously. There is space on the front of the instrument for imprinting if the purchaser desires to use it for promotional purposes. Circle No. 7-253 on Reader Service Card.

Imitation Gold Leaf

General Roll Leaf Mfg. Co. has announced a new imitation gold leaf called Lustrogen. Sponsor claims the product provides durability, resistance to tarnish and working ease. Circle No. 7-270 on Reader Service Card.

Linotype Cuts Spartan Agate

The growing trend to sans serif type faces for classifed advertising has resulted in the development by Mergenthaler Linotype Co. of Spartan Book with Heavy for TTS composition. Cut in 5½ pt., the TTS Spartan can be used for baseball box scores and other agate material

LINOTYPE'S 5½△100 SPECIAL NO. 5
(set on 5 pt. slugs)

BOYS—Stock work, to $50; 40-hr, 5-day week. Free hospital, life insurance. Apply 10-5, 3rd floor, Marberry Instrument Co, 983 Southern Blvd, Riverside.

CASHIER for quiet, residential hotel on East Side, night shift. Experienced, to 50 yrs. Bookkeeping exp desirable. Apply Mgr, Hotel Kilbourne, 1 E 7th St.

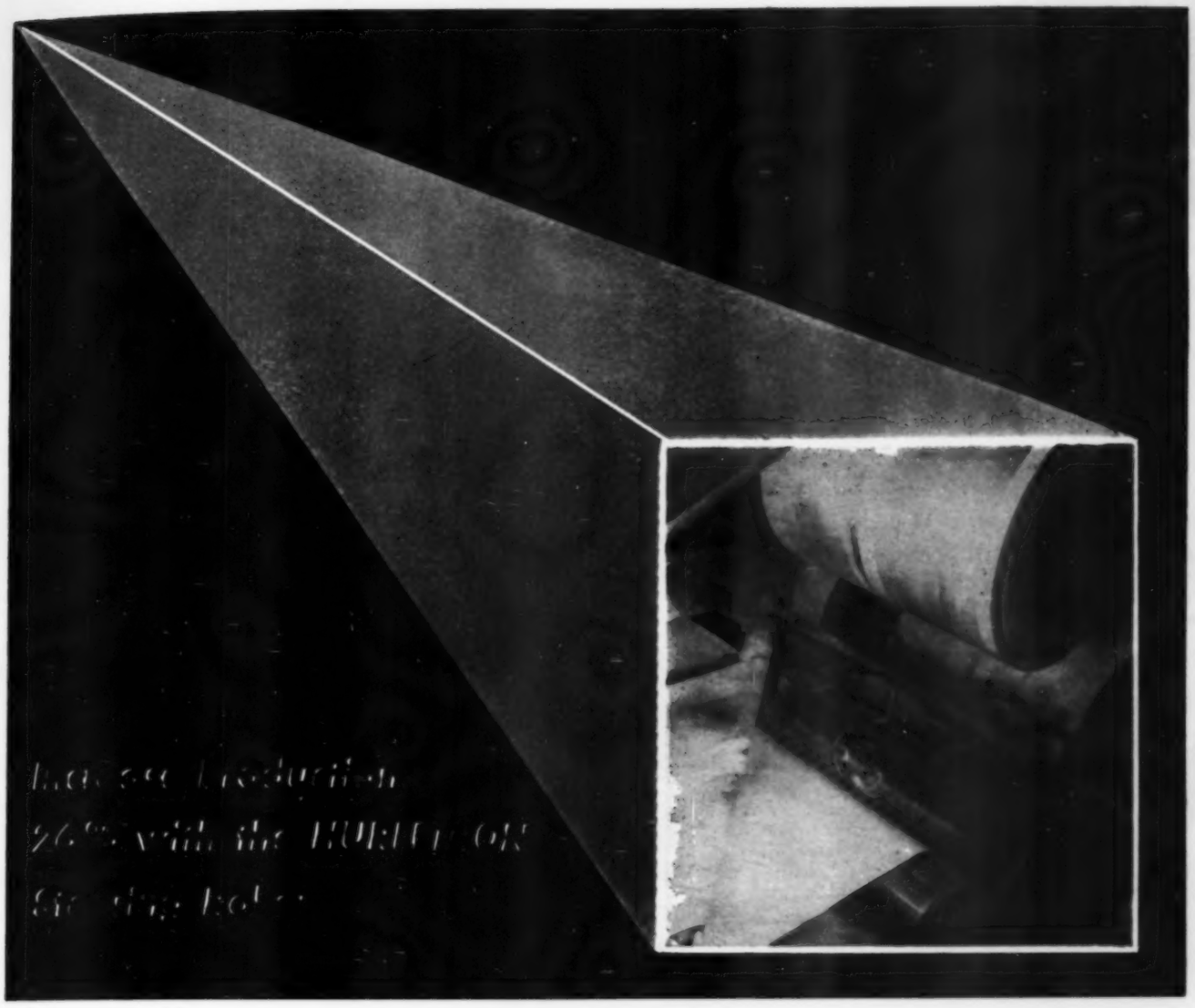
CASHIER-MANAGER for high-type restaurant, 35-45 yrs. Must be high school grad, minimum 5 yrs exp. Apply in person only. Black Horse Inn, 147 North St.

CLERK, publishing co. Oppty for bright young man with some college. $45 start. Call Mr. Jones, AL 5-4686, Ext 189.

transmitted on press wire circuits as well as for classified.

The new type bears the designation 5½△100. It is designed for TTS composition on 11 picas from circuit agate transmission, notably sports scores, stock tables and other financial material. It can also be used for local perforation. Special short descenders are available for casting on a 5 pt. slug. Two lowercase a's are available, in the Roman and Greek form. The lowercase

(Continued on Page 16)



THE NEW WEB ALIGNER THAT EARNS YOU AN EXTRA $100 PER DAY

In daily continuous use on a major magazine publisher's presses, the HURLETRON WEB ALIGNER has proved that it is the fastest acting web weave control on the market today. What does this mean on your high speed, multicolor letterpresses? It means an increase in production of 26% . . . it means a savings of up to 60% in printed waste alone . . . it means a reduction in backbone and lap deviation by 75% on a former board folder. Write or phone today . . . find out about the HURLETRON complete package . . . a training program plus periodic tuition free refresher courses for your operating and maintenance personnel.

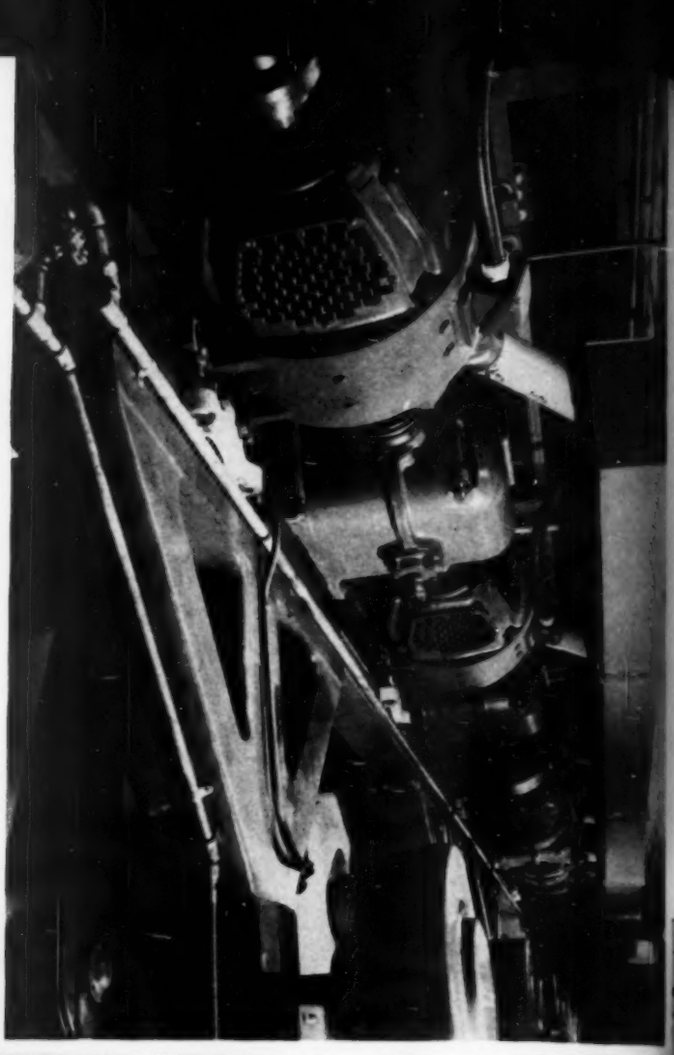
HURLETRON **Electric Eye Equipment Company**

1930 EAST FAIRCHILD STREET, DANVILLE, ILLINOIS

For More Information Circle 56 on Reader Service Card

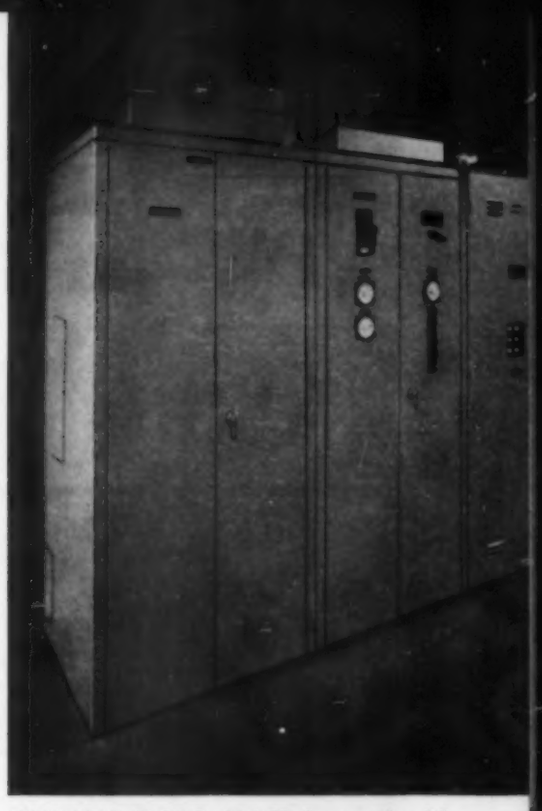
ENGINEERING REPORTS:

INCREASED FLEXIBILITY to meet changing schedules and color needs is obtained because press units can be arranged in any combination. One motor handles all power requirements for its press unit—threading, inching, running, and braking. If one or more units is disabled, standby capacity of remaining drive motors can still carry whole load at reduced speed.



OPEN, UNCLUTTERED PRESSROOM AND REELROOM in Stockton Record plant was made possible with G-E electronic press drive. Power and control equipment and press-mounted drive motors are located out of the way, leave aisle space clear.

NO SPECIAL TRAINING IS NEEDED to operate, maintain drive. Oil-tight pushbutton stations seal out oil, grime and foreign material, give more dependable operation, long life. Motors for any desired press combination can be grouped through simple selector switches.



VALUABLE FLOOR SPACE is saved with compact, co-ordinated, combined power and control panel, supplying d-c power from standard a-c source.

Stockton Record cuts running time 1 hour with help of General Electric d-c drive

Simple, flexible electronic press drive on new Goss "Headliner" press reduces maintenance costs, simplifies future expansion

"Better service than ever to our readers," is what Irving L. Martin and Ross Williams, co-publishers of the Stockton (Calif.) Record, say of their new Goss "Headliner" press and its General Electric electronic press drive. The 7-unit press is powered by eight General Electric 40-hp, d-c motors, providing an hour's savings in running time on daily press runs of 56,000 papers (average 32 to 64 pages). Provision was also made for the low-cost addition of more units, as needed.

SEVEN-WAY SAVINGS were achieved through reduction in (1) *power losses*—drive operates at higher efficiencies at reduced speeds, (2) *total demand*—drive has lower power requirements, (3) *utility premiums*—drive has better than 90% power factor, (4) *installation expense*—control panels are factory-assembled and wired, (5) *maintenance*—drive system eliminated many moving parts, (6) *space*—control and power package require minimum floor area, (7) *ventilating equipment*—virtually eliminated because heat losses are greatly reduced.

OPERATING ADVANTAGES of the G-E d-c electronic press drive include maximum production continuity because the entire load can be carried at slightly reduced speed with only ⅜ of motors operating. Smooth acceleration from threading to full speed means fewer web breaks and greater dollar savings to you. This drive system's simplified control means that your operators require no special training. You can go from installation to full production almost immediately.

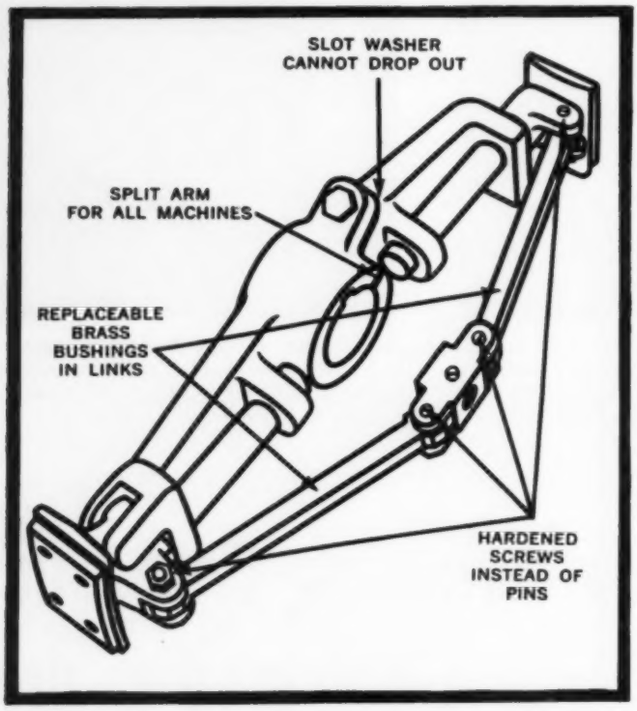
TO RAISE YOUR PRESSROOM EFFICIENCY with a General Electric electronic press drive, contact your local G-E Apparatus Sales Office or write for Bulletin GEA-5523 to General Electric Co., Section 672-37, Schenectady 5, New York.

Engineered Electrical Systems for Newspaper Plants

GENERAL ELECTRIC

For More Information Circle 68 on Reader Service Card

New STAR Driving Clutch



Here's a chance to modernize your old worn driving clutch with another STAR improved part. Worn driving clutch linkage results in uneven contact between clutch leathers and the drive wheel, preventing smooth clutch action. Replacement of a troublesome clutch eliminates chatter and incomplete clutch release.

The new, improved STAR Driving Clutch has several advantages not previously available. The links have replaceable brass bushings at both ends. To reduce wear, hardened link screws are used instead of the usual soft pins.

The improved STAR clutch has a split arm, and is clamped on to the shaft instead of being pinned. The slot washer is held in position by a flange and cannot fall out. This prevents the arm screw from being tightened until the arm cracks.

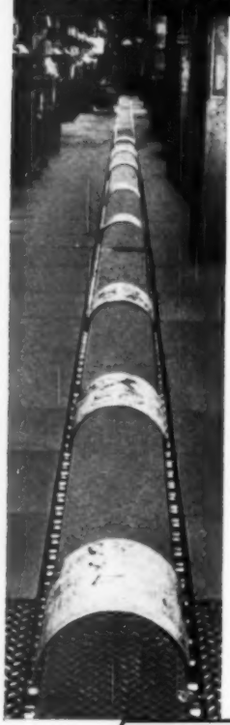
Order by STAR PART No. C-237-A for Linotypes and S-31-A for Intertypes.

BRANCH:
1327 BROADWAY, KANSAS CITY, MO.
AGENCIES:
CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • SO. ACTON, MASS.
CANADA: SEARS LTD. AND AGENTS OVERSEAS

STAR PARTS, Inc.
Precision TRADE ★ MARK Parts
SOUTH HACKENSACK, N. J.

For More Information Circle 168 on Reader Service Card

STEROPLATE DELIVERY...



SOONER, SURER, EASIER

with JAMPOL METHODS and EQUIPMENT

Typical of how Jampol newspaper handling methods can integrate operations in a plant is the Stereo Plate conveyor system illustrated.

With Jampol handling, you can always be sure of three things—even work flow for substantial savings in time and production costs... longer lasting precision-made equipment... and a definite competitive advantage in meeting delivery deadlines.

If you would like more information about Jampol methods, and their place in improving your plant operations and profits, please write us.

4042

the JAMPOL COMPANY, Inc.
General Offices and Factory
728-742 61st Street, Brooklyn 20, New York

For More Information Circle 192 on Reader Service Card

LET A Capco REWINDER HELP YOU SAVE NEWSPRINT!

With the tight market and high cost of newsprint today, why not let a CAPCO rewinder save you from two to four rolls of usable newsprint a day that is now going as core waste, and being sold as white waste or cut up for copy paper? More than ever today more newsprint means more advertising linage.

Get complete details on the "newsprint saver" from

CAPITAL TOOL and Manufacturing Co.
5000 Calvert Rd., College Park, Md. **Phone UNion 4-7677**

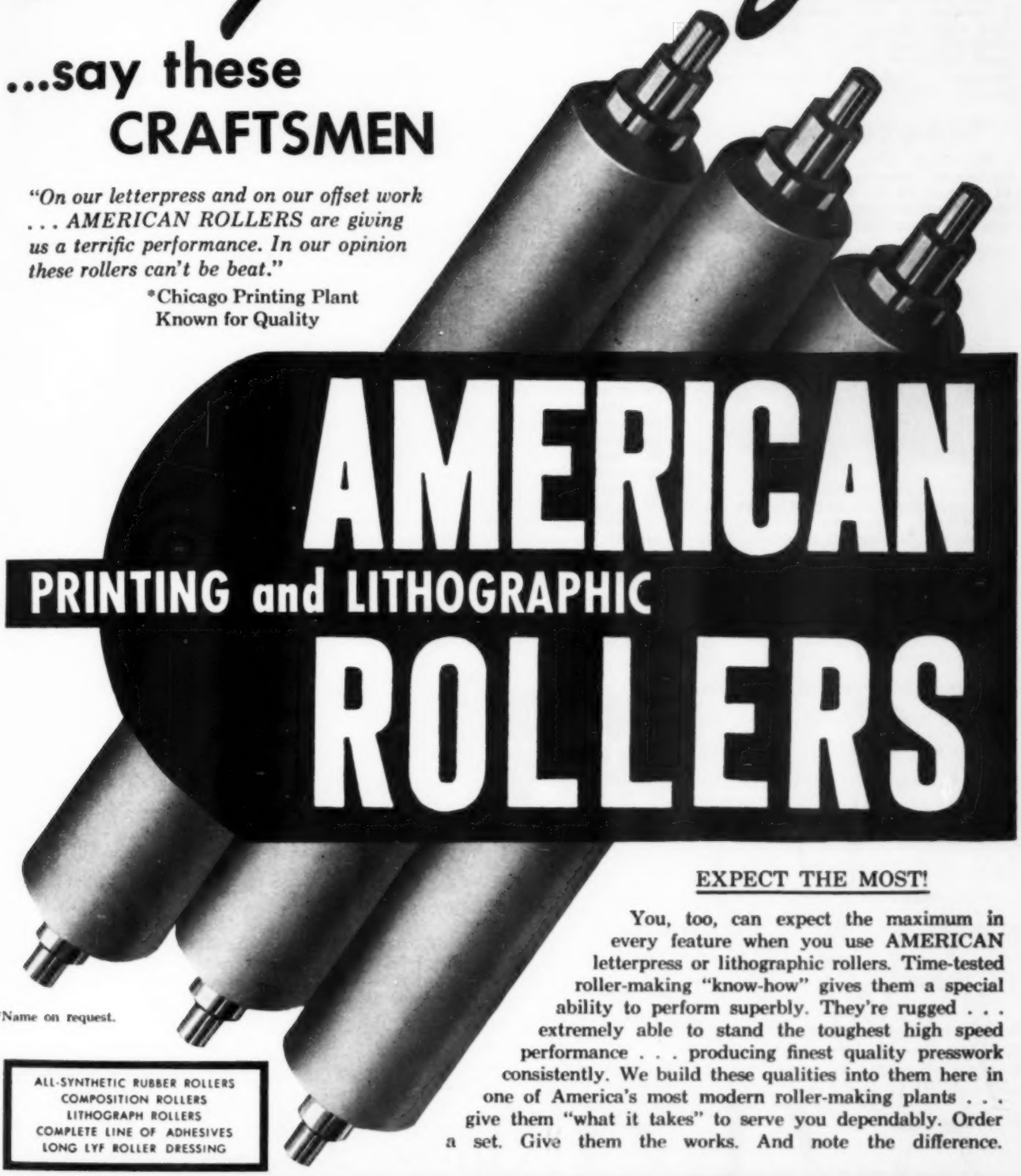
For More Information Circle 28 on Reader Service Card

"They're Terrific"

...say these CRAFTSMEN

"On our letterpress and on our offset work . . . AMERICAN ROLLERS are giving us a terrific performance. In our opinion these rollers can't be beat."

*Chicago Printing Plant Known for Quality



AMERICAN PRINTING and LITHOGRAPHIC ROLLERS

*Name on request.

ALL-SYNTHETIC RUBBER ROLLERS
COMPOSITION ROLLERS
LITHOGRAPH ROLLERS
COMPLETE LINE OF ADHESIVES
LONG LYF ROLLER DRESSING

EXPECT THE MOST!

You, too, can expect the maximum in every feature when you use AMERICAN letterpress or lithographic rollers. Time-tested roller-making "know-how" gives them a special ability to perform superbly. They're rugged . . . extremely able to stand the toughest high speed performance . . . producing finest quality presswork consistently. We build these qualities into them here in one of America's most modern roller-making plants . . . give them "what it takes" to serve you dependably. Order a set. Give them the works. And note the difference.

AMERICAN ROLLER COMPANY — 1342 N. Halsted St. — Chicago 22, Ill.
225 N. New Jersey St., Indianapolis 4, Ind. — 258 E. 5th St., St. Paul 1, Minn.
W. S. MEGILL 1918 Lawrence St., Denver 2, Col. DISTRIBUTORS SPRAY SALES 6110 Atlantic Blvd., Maywood, Calif.

For More Information Circle 12 on Reader Service Card

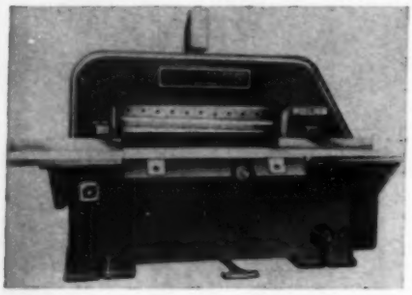
Equipment and Supplies

(Continued from Page 10)

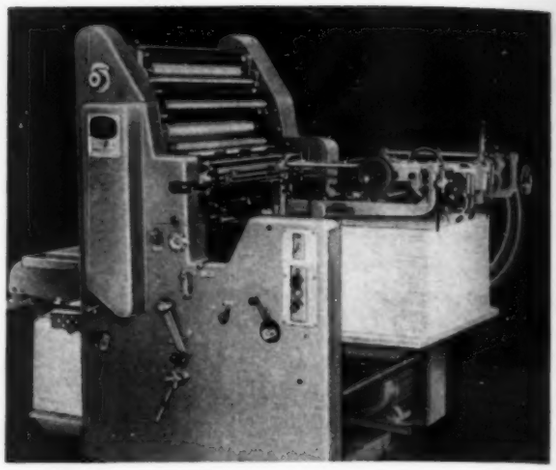
alphabet length of face is 88.47 pts. The same face, in a Special No. 5 version, is for manual composition where maximum word count is desirable. To achieve this, a lowercase alphabet of 78 pts. has been designed. Circle No. 7-265 on Reader Service Card.

Polar Paper Cutters

The Gane Bros. & Co. announced its line of Polar cutters in two sizes, 42 in. and 52 in. with power driven back gauge and with or without auto-spacer. A smaller machine, 31½ in.,



with automatic hydraulic clamp and hand operated back gauge is also being offered. Features of the cutter include an Electromat magnetic tape auto-spacer, Line-O-Lite cutting line, photoelectric cell safety control and swinging side tables. For further information, please circle No. 269 on the Reader Service Card.



An improved version of the ATF Chief 24 offset press is shown here. A number of new features are incorporated in what will be known as the Model 1200.

Improved Chief 24 Offset Press

American Type Founders Co., Inc., announces an improved version of the Chief 24 offset press to be known as the Model 1200. Sheet size range is from 8 in. by 10 in. to 17¾ in. by 24½ in., and up to 18 in. by 24½ in. under some conditions. Papers handled range from 9 lb. onion skin to 6 ply card (to 70 lb. book in the 18 in. by 24½ in. size).

Features of the new model include adjustable controls equipped with numbered scales for quick resetting of ink, water, and impression adjustments. The operator may return immediately to the proper setting for the job being run, states ATF. All controls are identified. Gears, revolving shafts, rollers and oil lines are covered for safer operation. A Bijur automatic oiling system is included as standard equipment. The top ink roller is fitted with a handle which permits the operator to lift it and add ink by hand while the press is running. An improved lock-up device eliminates sharp corners which may cut and break plates.

Ball bearings have been added to the feeder drive shaft. A sheet holder has also been added to the delivery

(*Continued on Page* 51)

THESE CHIPS... are spitting images off the old block

Another way of saying sharper, clearer, faithful reproductions start with the best in type metal .. type metals that get every detail in the matrix for crisp, brilliant, faithful reproductions. Imperial with 44 years experience has the "know-how" that gives "spitting images" for reproduction proofs. May we show you samples?

Imperial you get EXTRA ADVANTAGES with

IMPERIAL TYPE METAL CO.

CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

For More Information Circle 93 on Reader Service Card

Print direct for sharper halftone reproduction

Thousands of newspapers are printing direct from original halftone engravings produced on Fairchild Scan-A-Gravers — thus eliminating losses of detail that result from matting and stereotyping.

Fairchild engravings are flexible and easy to use. They mount directly onto the stereo. The resultant reproduction is sharper and cleaner, and approaches the quality of the original photograph. You can be proud of this quality of reproduction and of the reaction it gets among readers.

Fairchild representatives will be glad to show you examples of direct printing and demonstrate how to get better quality with engravings made on Scan-A-Plates®.

• You'll be interested in the flexibility and ease with which these modern, electronically-produced engravings can be used right in your own shop. For complete information write Fairchild Graphic Equipment, Inc., 88-06 Van Wyck Expressway, Jamaica, New York, Dept. 100-3281

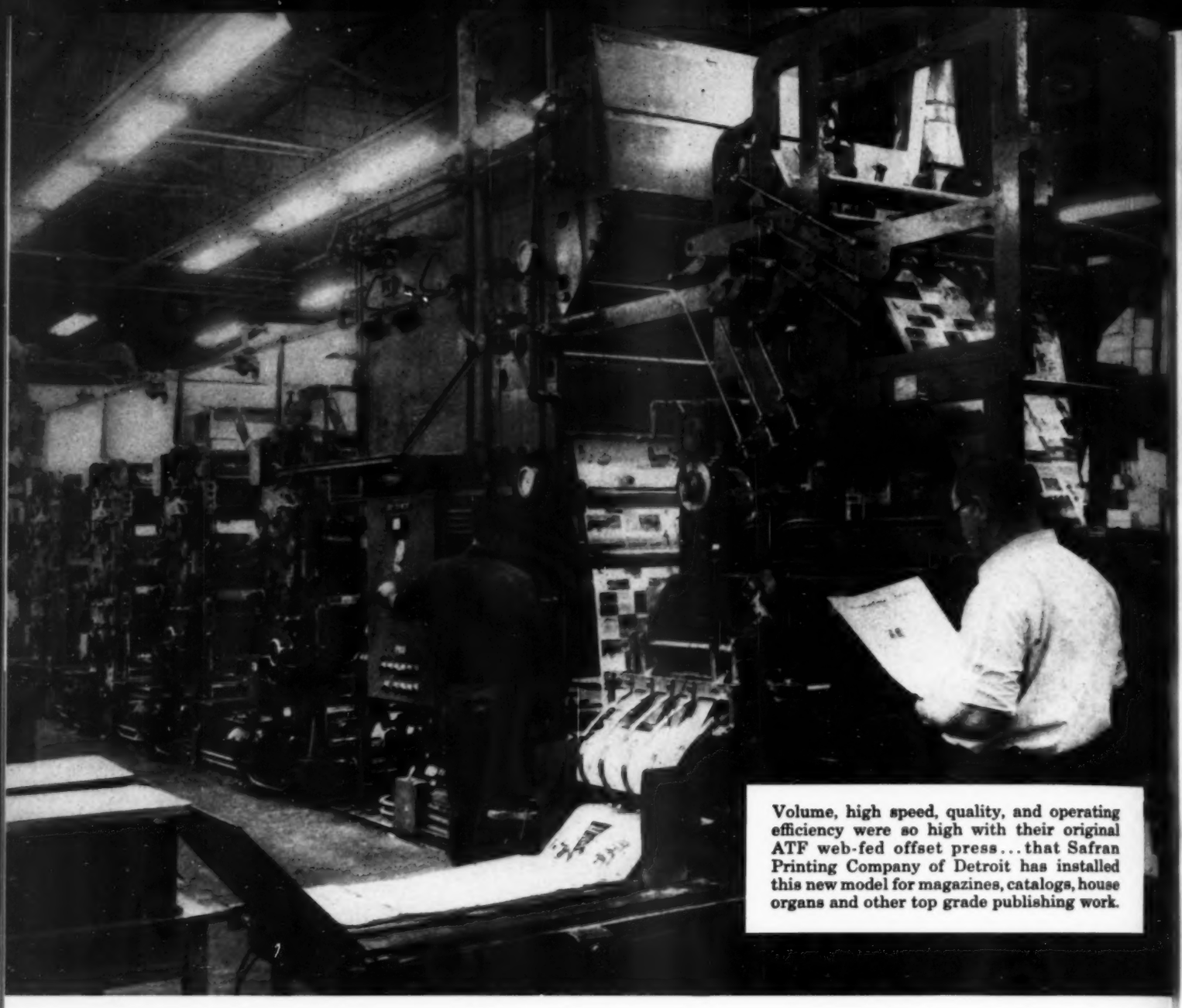
FAIRCHILD GRAPHIC EQUIPMENT, INC.

SCAN-A-GRAVER • SCAN-A-SIZER

Electronic Engraving Machines

District Offices: Walpole, Mass.; Atlanta, Ga.; Chicago, Ill.; Los Angeles, Cal.; Toronto, Ont.

For More Information Circle 58 on Reader Service Card



Volume, high speed, quality, and operating efficiency were so high with their original ATF web-fed offset press... that Safran Printing Company of Detroit has installed this new model for magazines, catalogs, house organs and other top grade publishing work.

The acid test of a great press

...is user loyalty! All over the country, leading printers like Safran Printing Company have found their ATF web-fed offset presses so profitable that they've come back for two, three, and sometimes four larger or additional units.

What's behind it? ATF's experience—our 25 years of working for and working with the printing industry—the *only* way to develop fine presses. And today, ATF can truly say:

• *ATF leadership sparked the expansion of the web-fed offset process—now a recognized method for top-quality, high-volume, low-cost publication printing.*

• *Every ATF web-fed press ever built is still in profitable operation.*

• *By standardizing many components, ATF offers even greater savings to printers who want to cash in on the superior profit-potential of offset.*

ATF has built up a storehouse of practical know-how and knowledge that will get you into profitable web-fed operation in the shortest possible time.

Invest a minute today to call your ATF representative. It may well open up a vast new world of profits for you.

AMERICAN TYPE FOUNDERS ATF 200 Elmora Avenue, Elizabeth, N. J.

better, more profitable printing...from the most complete line of equipment

4509

For More Information Circle 10 on Reader Service Card

For More Information Circle 92 on Reader Service Card

the free-lunch type of selling is dead as a dodo!

The customer always knew who was paying the bill. Nowadays, you have to put the premium into the product—and printing is no exception.

But the best of inks and plates is wasted unless you can transfer their excellent qualities to virgin paper. To do this with greatest fidelity is our Ideal objective.

On Lithographic presses, use Lithocraft (black synthetic) Masterlith (vulcanized oil) or Ideal's new Graytone rollers. Of course, you'll want to use Ideal's Plast-O-Damp System of Measured Moisture, and share the benefits of this revolutionary new process.

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO, ILLINOIS 2312 West 24th Street
HUNTINGTON PARK, CAL. 6069 Maywood Avenue
LONG ISLAND CITY, N. Y. 21-24 Thirty Ninth Avenue
CHAMBLEE, GEORGIA 5100 Peachtree Road, NE

Literature

Circle Numbers on Reply Postcard—It's Easier and Quicker

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please Circle the numbers on the Reader Service Card in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. *Printing Equipment Engineer* will forward your request.

Composing Room

PROOF PRESS BOOKLET

An eight page booklet covering Challenge proof presses and their advantages has been published by Challenge Machinery Co. Six applications of these proof presses are described in the booklet. Also included is a comparison chart and detailed descriptions of 11 operating features. Illustrations of various Challenge models are shown. Circle No. 7-310 on Reader Service Card.

INTERTYPE TYPE FACES

A number of new type faces are included in Intertype Corporation's new 20 page publication depicting alphabets and special alternate characters for each of 197 Intertype faces used on linecasting machines. Four faces in the Futura series are added to the booklet. They are: Extra bold, extra bold oblique, extra bold condensed and extra bold condensed oblique. Other type faces are Hobo, News Gothic, News Gothic Bold, News Gothic Condensed, News Gothic Bold Condensed and Pen Bold. The faces, shown in 10 pt. size only, are listed alphabetically. Circle No. 7-317 on Reader Service Card.

MONO-TABULAR EQUIPMENT

Descriptions of Universal Mono-Tabular Corp.'s equipment line and pictures of the men responsible for its manufacture are included in an eight page, three-color brochure. Illustrations of the company's products are shown which includes the Universal Strip Caster, molds and slides, Mono-Tabular Broach, rule cutter, and knurling tool. The front cover shows an artist's sketch of the firm's new building. Circle No. 7-309 on Reader Service Card.

NEWLY-ENGINEERED LINOTYPE

The newly-engineered Model 31 Linotype is described in a 10 page booklet printed in three colors by Mergenthaler Linotype Co. Speed of the Model 31 is claimed to be 10 lines per min. under manual or tape operation. The illustrated booklet contains descriptions of the machine's features and shows the variety of composition it can produce. Circle No. 7-321 on Reader Service Card.

TYPECAST CUTS

In a 20 page illustrated bulletin No. 17, Sterling Type Foundry shows the many miniature emblems available in hard foundry metal form. The variety of designs is surprising. Included are emblems for secret societies, clubs, U. S. service insignia, patriotic, business and purely ornamental designs. Circle No. 7-327 on Reader Service Card.

DWIGGINS TYPES

A four page folder has been prepared by Mergenthaler Linotype Co. in which are shown specimens of W. A. Dwiggins' type faces. These are Caledonia, Electra, Metro Series, Eldorado and several unissued faces. Also shown in the folder are Caravan Decorations available in Linotype matrix slide form. Circle No. 7-323 on Reader Service Card.

Platemaking

OFFERS 4-COLOR LITHOGRAPH

A four-color lithographed wildlife scene is offered by Minnesota Mining and Mfg. Co. to demonstrate the quality in color and detail obtainable from 3M brand presensitized grainless offset plates. The scene is reproduced in subtle natural colors; measures 14 in. by 17 in. and is suitable for framing. Circle No. 7-308 on Reader Service Card.

PLATE MOLDING PRESSES

Lake Erie Machinery Corp. has issued an eight page bulletin which includes descriptions of five standard models of Acraplate rubber and plastic plate molding presses. Press specifications and accessory equipment are listed in the bulletin together with illustrations of the five models. Circle No. 7-307 on Reader Service Card.

MOTOR DRIVEN ARC LAMPS

Motor driven arc lamps for cameras, photocomposing machines and printing frames is the subject of a four page bulletin prepared

by nuArc Company, Inc. Illustrations of various models of the nuArc lamps are included along with descriptions and specifications. There are also illustrations of actual installations. Circle No. 7-313 on Reader Service Card.

PATTERN PLATE BULLETINS

The Oshkosh Engraving Co., makers of controlled deep etched pattern photoengravings for the various packaging industries, announces a complete revision of its literature for mailing. You may keep informed of the latest developments in the field of magnesium pattern photoengravings by writing for your copies of bulletins Nos. 15 and 125 in which the pattern plates are described. Circle No. 7-322 on Reader Service Card.

RUBBER PLATE DIRECTORY

A 16 page directory of specialized services and products for rubber plate printers has been issued by Mosstype Corporation. Printed in two colors and well illustrated, the directory provides descriptions of various Mosstype services. Also included is a presentation of quality control procedures used by the company. Circle No. 7-312 on Reader Service Card.

CHOOSING PLATE MOLDING PRESS

A four page, 8½ in. by 11 in. bulletin (illustrated) is descriptive of Lake Erie Engineering Corp.'s molding presses for rubber and/or plastic plates. Pressures, steam and electric heating and operating controls are discussed. Circle No. 7-325 on Reader Service Card.

MACBETH EXAMOLITE

A four page illustrated bulletin is descriptive of the new Type C4-D Macbeth Examolite. This overhead fixture, states manufacturer, is the ultimate in a standardized color corrected light source sufficiently simulating daylight for all industrial color inspection applications. One of the use examples is that of inspecting work on a proof table from overhead Examolite light source. Circle No. 7-328 on Reader Service Card.

Pressroom

DRY OFFSET REPRODUCTION

A four page technical bulletin on dry offset reproduction is available from Davidson Corporation. Entitled *Do More Dry Offset on the Davidson Dual-Lith*, the bulletin includes a list of advantages of dry offset reproduction and contains instructions and illustrations showing how to use the Davidson Dual-Lith press for this type of work. The bulletin covers procedures for preparing the machine, mounting the dry offset plate and squaring and positioning the image. Circle No. 7-318 on Reader Service Card.

HYDRAULIC EMBOSSING UNIT

A new heavy duty hydraulic embossing unit, designed to work inline with rotary press equipment, is described in an illustrated bulletin offered by Champlain Company, Inc. Included in the bulletin are descriptions of the register system, hydraulic power unit, pressure system, herringbone drive gears, and construction elements. Specifications are given on models for four different web widths and a drawing illustrates placement of hydraulic cylinders and change gear box. Circle No. 7-319 on Reader Service Card.

CARE OF OFFSET BLANKETS

How To Make A Good Impression is the title of an eight page booklet issued by Goodyear Printers' Supplies Sales, Div. of Goodyear Tire & Rubber Co. The booklet contains ideas about the care of offset press blankets. Circle No. 7-314 on Reader Service Card.

OFFSET PLATE CLAMP

Miehle Printing Press & Mfg. Co. offers a four page, two-color bulletin covering its new Miehlegrip plate clamp for offset presses. It is claimed the clamp cuts plate changing time to 90 sec. An illustrated step-by-step explanation of plate mounting and makeready procedure are included in the bulletin. Also, a description of the quarter-turn locking eccentrics. The clamp is designed for use on Miehle's 29, 36, 38, 41 and 49 inch models. Circle No. 7-315 on Reader Service Card.

Miscellaneous

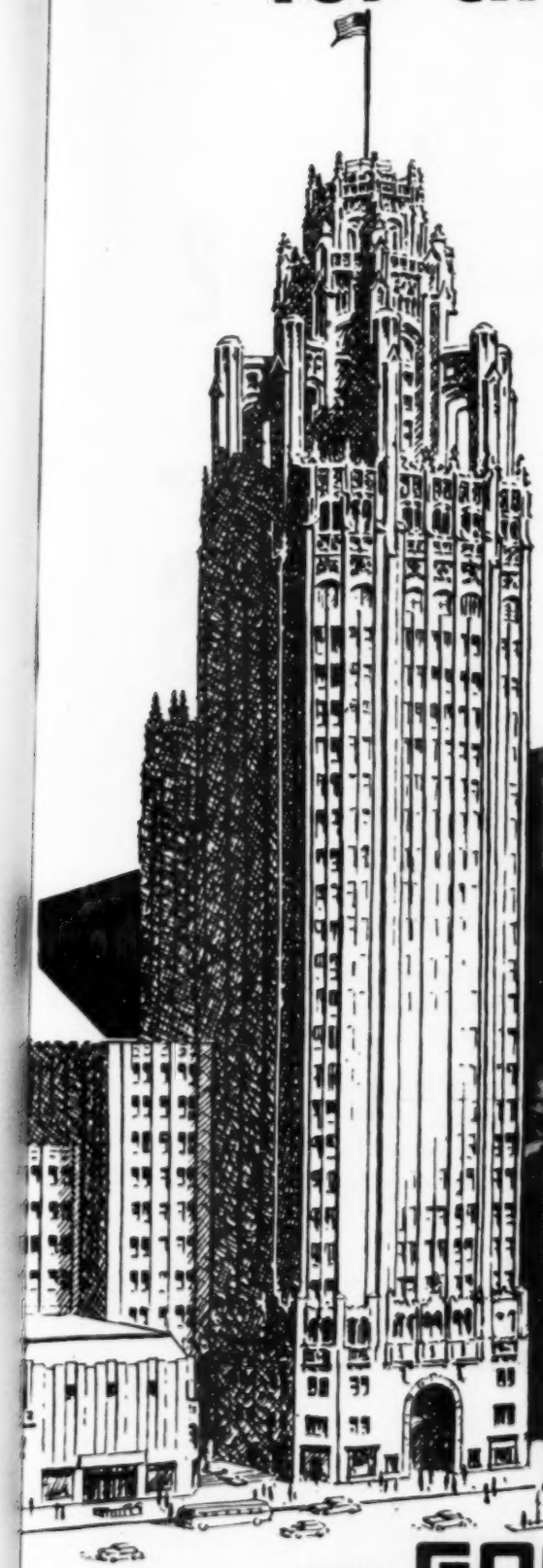
LETTER WRITING MANUAL

Suggestions on how to write the kind of letters you would like to receive are included in a 14 page manual produced by Mead Corporation. Entitled the *Mead Letter-Aider*,

the booklet covers many kinds of letter writing, including sales, routine, complaint and collection letters. It is the second in a special series of such manuals offered by Mead. Circle No. 7-311 on Reader Service Card.

(*Continued on Page* 66)

more Headliners for the Chicago Tribune

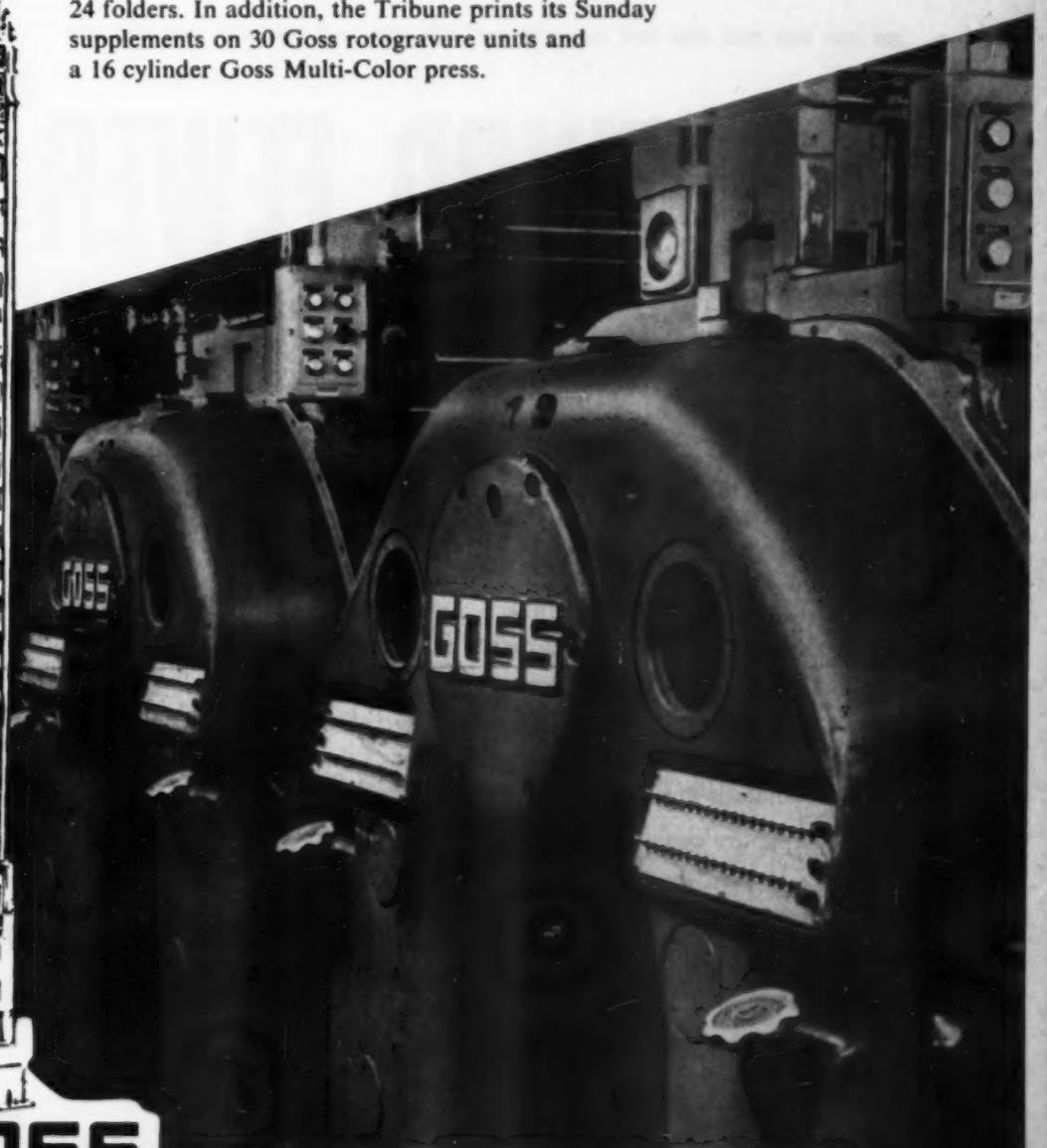


IT'S GOSS AGAIN AT THE CHICAGO TRIBUNE

The latest order is for 16 additional Headliner units with three color decks, three 128 page folders and 16 Reels-Tensions-Pasters, equipped with Goss Paster Pilots—the fully automatic paster control. The new units replace older Goss equipment.

The Tribune Tower, home of "The World's Greatest Newspaper" is a landmark both in Chicago and in the publishing world. And the Tribune pressroom is an outstanding demonstration of the acceptance of Goss equipment by leading newspapers all over the world.

When the latest presses are installed there will be in the main Tribune pressroom a total of 126 Goss black and white units, with 24 color decks and 24 folders. In addition, the Tribune prints its Sunday supplements on 30 Goss rotogravure units and a 16 cylinder Goss Multi-Color press.

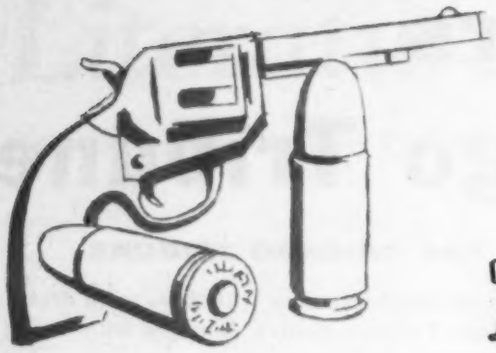


THE GOSS PRINTING PRESS COMPANY

A Division of Miehle-Goss-Dexter, Incorporated

5601 W. 31st ST., CHICAGO 50, ILL.

For More Information Circle 72 on Reader Service Card



3 little errors... | then there were **2**

ONE-THIRD FEWER ERRORS

IN ORIGINAL COMPOSITION...WHEN YOU USE

MATRIX CONTRAST SERVICE

Legible reference marks in black-and-white or colors on your linecasting matrices can prevent the loss of a significant amount of production time, through the reduction of linecasting errors.

And the use of Matrix Contrast Service is without doubt the easiest and most efficient method of assuring that your matrices are up to modern standards of visibility at all times.

Here are actual figures taken from a recent survey of a newspaper composing room after they started using this convenient time and labor-saving service . . . saving in errors — 36.73%.

There is no reason why you shouldn't be taking advantage of similar savings in your own operations . . . particularly in view of the bonus you get in the form of improved working conditions for your typesetters.

Write today for full details.

Matrix Contrast Corporation
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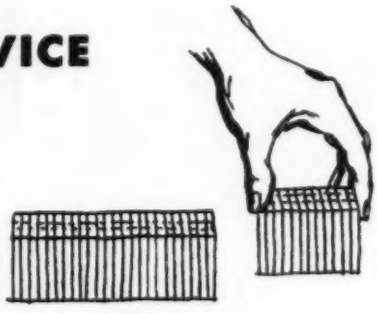
MATRIX CONTRAST SERVICE
MATRIX CONTRAST CORPORATION
154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.



yes... 1/3 less errors

For More Information Circle 114 on Reader Service Card

PRINTING
EQUIPMENT
Engineer
July 1957

King Advises Changing Papers In Harmony with Reader Habits

By HOWARD N. KING*

**Typographic Counselor, Intertype Corporation. Abridged from address delivered before ANPA Mechanical Conference, Chicago, Morrison Hotel, June 1957.*

The capture of readership is what the newspapers of America must have if they want to survive the changes that are taking place in the field of communications. It is the only way they can re-establish reading habits in a viewing public. You must make your product what the public wants —not what you think it should have because it has always been that way.

What does the public want? How do you go about giving it to them? We think you have to delve a little deeper than ideas tossed out in the conference room.

First, there are the changing habits of people—changes in their tastes and desires and the way they live. Second, there is Technology, which provides better, cheaper, more efficient products that change their habits. Third, there is Economy—with cost cutting and more efficient methods to offset rising prices and to expand the market. And finally, there is the Inventive Mind, actually the thing that keeps this country ahead.

As far as the changing habits of people are concerned, we're living faster, moving faster, and the pace is accelerating every day. New work-savers give us new leisure time—time to spend in travel or in activities with our families. We know that the world has become small, and that what takes place on the other side of the globe concerns us deeply. But, we find it more palatable to have these facts explained by someone we can watch in our living rooms than to wade through repetitious column after repetitious column to dig them out for ourselves. The housewife finds it more instructive to watch someone cooking than to follow the steps of a printed recipe. Even the children learn more quickly, as proved by audio-visual training in schools, when information is given to them in a form they like.

So what do we do? I think we can follow the advice of Chicago's Marshall Field: Give the reader what he wants.

What does the reader want? He wants a contemporary newspaper—not the same sheet that his grandfather read. Recognition on the part of newspaper publishers is long past due, and we hope there is still time to change.

Give the reader what he wants—a clean, easy-to-read paper that tells its stories in as few words as possible, and gives him type he can read at a glance. Give him a paper that illustrates with picture after picture —in color as well as in black and white—so that even without reading more than the outline, he knows the basic facts. Give him a product that fits into his fast-moving life, and, once more, he will accept that product.

To give him the product he wants, Technology, the second area behind change, is harder at work for us today than it has ever been in the past. And along with Technology, let's examine Economy, for the two are so closely related.

Pictorial Revolution

Take the question of illustration. Technology is about to make obsolete the engravers' processes and plates as we have known them for many years. Already there are cameras and equipment that can turn out black and white plates within a matter of minutes; can produce four-color plastic plates in as little as four or five hours. At the same time, Economy and many uses will lower the price of these plates so that cost will no longer be an alibi for your not using them. While they have not reached their successful conclusion, it won't be long before they do. When they do come, remember that they are ready to revolutionize your industry by handing you a long-awaited opportunity to give your reader what he wants.

They offer you a chance to dramatize a page with a dramatic photograph that tells a story more effectively than a thousand words — an atomic explosion or a tornado in action or the sudden arrival of spring. Whatever the news, violent or peaceful, that captures the reader's interest for the moment, dramatic illustrations will hold his attention on your pages. What about ease in reading? Technology, admittedly, can't control the verbosity of your editorial staff, but it can help give the reader a paper that is more pleasant and easier to read. It can help you improve your quality, and quality is the intangible thing that does make it easy to read. Is there any law, other than precedent, for example, that says your paper must be produced entirely on your rotary presses —even though certain parts would be better if produced by the offset process? No, and we believe that in the future, you will use a combination of the two.

Now the developments we have mentioned are those which Technology has already completed and which Economy is now bringing within your realm. But there are still more ahead, because the Inventive Mind of America is never at ease in thinking of further improvements.

Photographic Reproduction

Some day, and probably sooner than you think, your newspaper will be produced photographically from the setting of type until the presses begin to roll.

The Inventive Mind is an amazing thing, for there are many people in this industry who believe such a newspaper might well be possible in less than ten years. The Inventive Mind is an amazing thing.

Perhaps the thinking of an Inventive Mind is what the newspaper industry needs. That Inventive Mind could be yours—for you see your

(Continued on Page 68)

Prints four colors on both sides of web once through press; product may be sheeted or folded into signatures

Eight Color Web Offset Press Shown by Harris to Visitors

By ADAM HENRI REISER, Eastern Editor

The new Harris-Cottrell high-speed eight-color webfed offset-lithographic printing press has been designed for the mass production of quality commercial printing and publications. Four colors can be printed on each side of the paper web as it passes through the press. The press is called the Harris-Cottrell Model LGC. Its capacity is a web of paper 50 in. wide with 43 in. sheet cutoff.

The press which publication is being used in commercial production was shown for the first time on Tuesday, June 11, to about 100 members of Printing Industry of America's Web Offset Section and a number of business magazine editorial representatives in the plant of Western Printing & Litho Co., Poughkeepsie, N. Y.

The press is the result of research and development work over a 10 year period by Harris-Seybold Co. and a mutual development contract between Harris-Seybold Co. and the Western Printing & Litho Co.

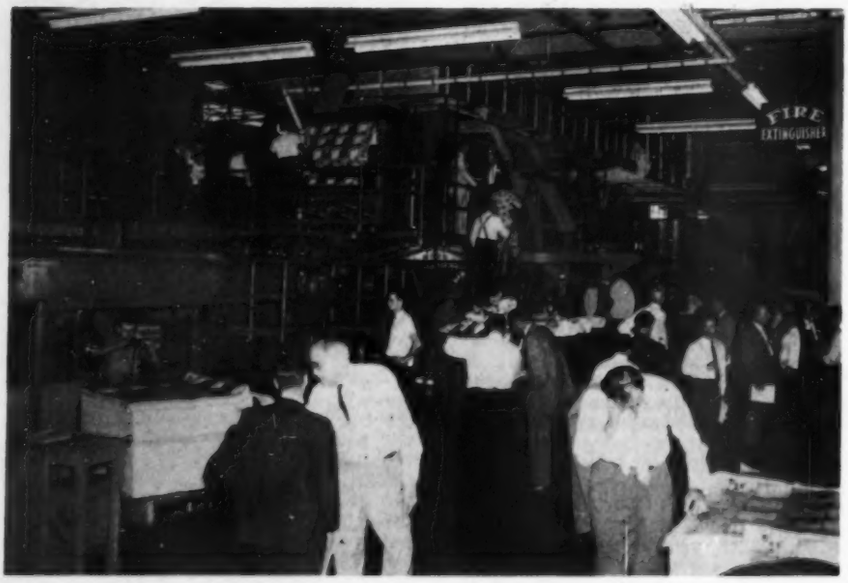
The Harris-Cottrell Model LGC was built at the Westerly (R.I.) plant of the Cottrell Company, subsidiary of Harris-Seybold.

Benefits To Lithographers

Three questions come to the mind of the writer upon viewing this press: (1) What are the advantages of such a press? (2) What can be done on this press? (3) When does the law of diminishing returns set in during its operation?

The press is said to expand the offset field in publication printing. It has been stated that it is now just as economical to purchase printing in four colors on two sides at a cost that formerly bought fewer printings on one side. In addition, this operation permits long runs to be completed in one shift perhaps with an occasional bit of overtime.

It is evident that a large volume of work is necessary to keep this voracious machine busy. The exact place where the operation becomes a marginal producer has not been determined fully as yet. Customers with 100,000 runs demanding rush deliveries would surely be happy were they to know the run was off by the next morning.



Members of Printing Industry of America's Web Offset Section visited plant of Western Printing & Litho Co., Poughkeepsie, N. Y., on Tuesday, June 11. They came to see the new eight color Harris-Cottrell web offset press in regular production. At left the skid of finished sheets is being removed from one delivery bay while press continues to operate and piles up sheets in alternate bay.

Press Developments

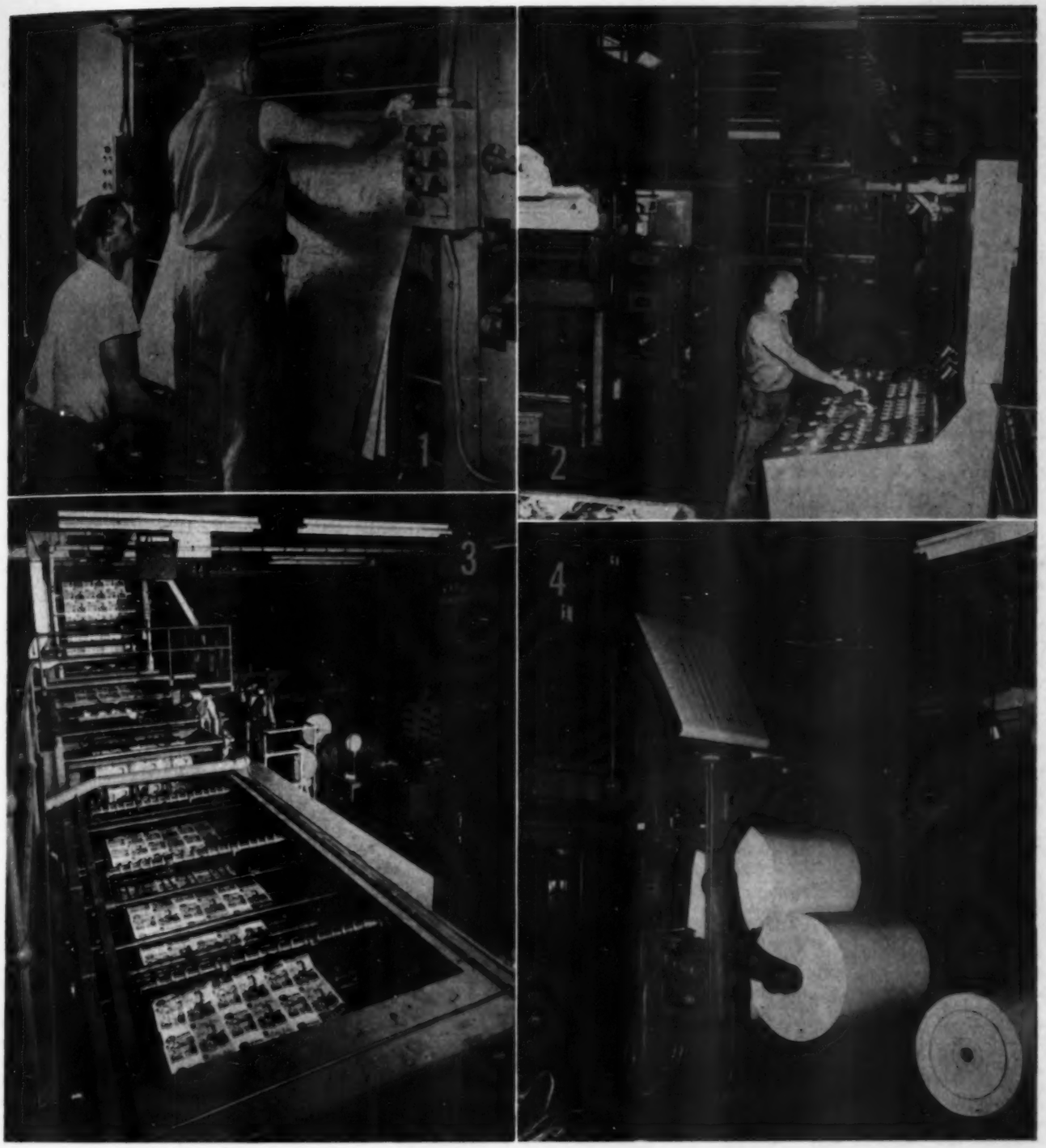
Actually, the press consists of four units of two-colors each. (See side elevation diagram.) Each of these units consists of five cylinders—two plate cylinders, two rubber blanket cylinders and an impression cylinder. Each of the plate and blanket cylinders is alike in diameter. The fifth acts as a common impression cylinder to the two blanket cylinders.

The web, passing around the impression cylinders, keeps its tension against the cylinder, while it takes the impression simultaneously from the upper and lower blankets. Following the schematic diagram, it will be seen that the impressions are really following in yellow, red, blue and black sequence. The paper at *A* takes the yellow impression at the top of the impression cylinder, then passing on to *B* where it takes the red impression. Then the web passes around to the underside of the cylinder where at *C* it takes the blue impression. The web then passes on where at point *D* it takes the black impression and travels up to the heating and drying section.

It will be seen from this explanation that different areas of the web take impressions from two opposite points of the impression cylinder simultaneously.

Drying and Cooling

After passing under an open flame (which being pressure operated comes to within ¾ in. of the surface of the paper) the web then passes through the drying oven and emerges from the further end, passes over cooling rollers, and then completes the four colors on the back of the sheet in the same sequence as outlined for the



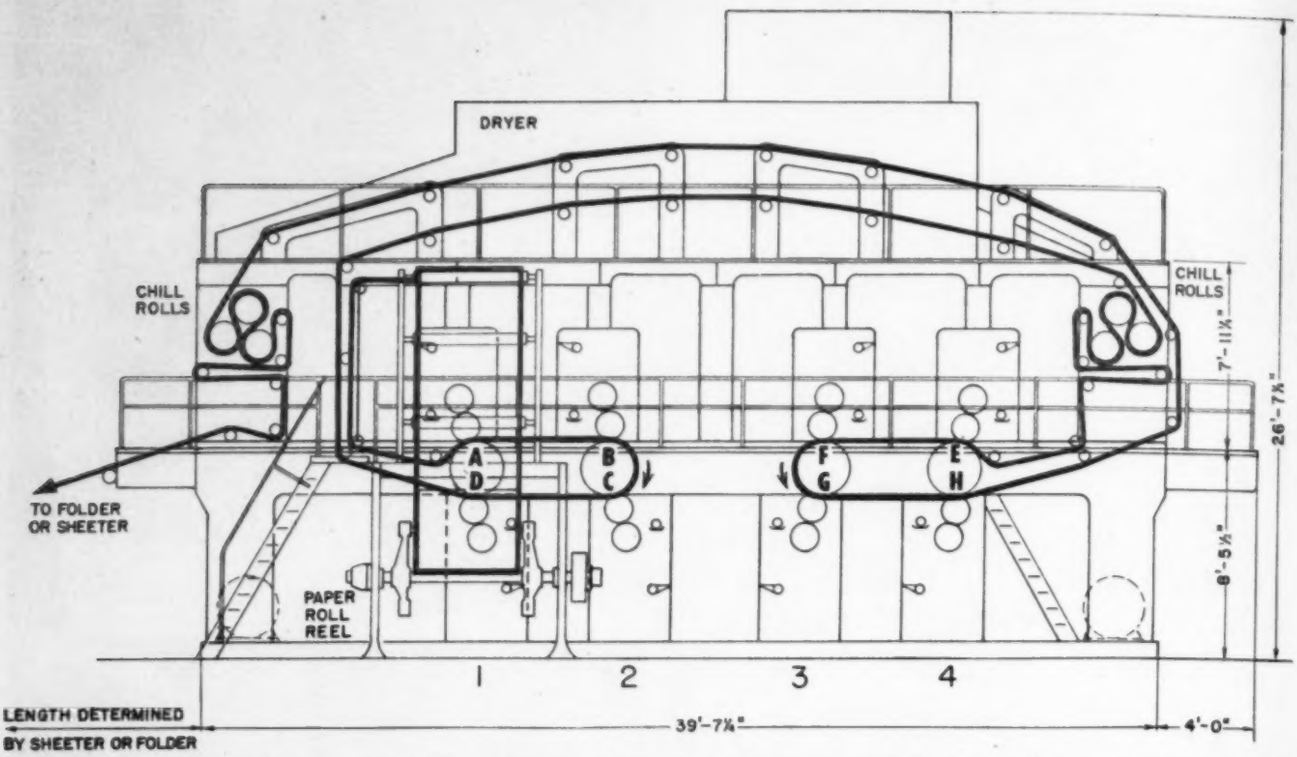
Detail Views of Harris-Cottrell Web Offset Printing Press

1—In the plant of Western Printing and Litho Co., Poughkeepsie, N. Y., pressmen are installing a plate on a cylinder on one of the four color printing units. Plates are preregistered on a fixture which bends the gripper and trailing edges of the plate in relation to the cylinder and in register with each other. Plates may be inserted or removed without disturbing the web lead.

2—At the delivery end of the Harris-Cottrell press there is a console panel by means of which the chief pressman controls functions, including the drive motors.

3—This is a view of the delivery mechanism looking toward the press itself. In this press, the 50 in. wide printed web being printed at 1000 f.p.m. is cut into sheets which are deposited at ¼ press speed in one of two piles by a Cottrell double delivery mechanism. The press is also designed to be equipped with a high speed Cottrell magazine folder.

4—Shown here is roll feed reel mechanism which is a component part of the Harris-Cottrell eight color offset printing press. A paper tensioning device at the roll stand measures and controls the rate of feeding of the paper web instead of the constant web holdback method. When a paper roll is nearly expired, the automatic paster goes into action to splice the paper lead from new and old rolls together. Paper losses during splicing are said to be low because the web holds a constant tension even during the splicing operation.



Side Elevation Diagram of Harris-Cottrell Eight Color Web Offset Printing Press Showing Arrangement of Four Printing Units

In this diagram, the heavy line represents the course taken by the paper web through the press. It will be seen that when the paper web leaves the roll reel it is angled into No. 1 press unit at *A* for printing the first down color; the second color is printed by No. 2 unit at *B;* the other two colors are then printed in succession by the lower sections of the first two units on the same side of the web at *C* and *D*. The wrap-around of the paper web around the second unit impression cylinder at *B* and *C*, assists in maintaining close control of the paper for register purposes. This completes the printing of four colors on the first impression side of the web. The web now travels upwardly and above the press through Offen heating chambers to dry the ink. Its path of travel continues uninterruptedly around water-cooled chill rolls to reduce the paper web to normal temperature. The unprinted side of the web now travels through the second impression units, *E, F, G* and *H* where the two units print four colors on that side of the web. Again the web travels above the press through ink drying units and then through the second set of chill rolls, immediately following which the web is fed into the folder or sheeter according to how the press is equipped.

first side printing, following *E, F, G, H* in sequence.

Since the wet side of the sheet never touches anything but the blanket from which it takes its impression, the hazard of marring the printed image through scratching or rubbing the wet ink is avoided.

Registration is maintained electronically although mechanical controls are also at hand.

Automatic Controls

Automatic controls are installed for many of the operations. Gas for heating is shut off simultaneously with the stoppage of the press. Heat cuts off automatically, too, both going on again as needed. The controls board contains warning lights and every possible safety precaution is incorporated.

Making paster on Harris-Seybold web offset press. The expiring roll web (bottom) is shown at instant the paster is being made to transfer web lead from expiring roll to the new roll (top). Before splice is made, the new roll is revolving rapidly enough so that the surface speed of the web coincides with the web from the expiring roll. Paster, consisting of connecting web of expiring roll to web of new roll of paper, is accomplished with lightning-like rapidity and without noticeable slowing of press operation.

Cooling and Dampening Systems

Ink roller bearings are water cooled as are the metal ink riders which have cooled water flowing through them. This latter innovation has the effect of cooling the ink so that any heat that may be imparted to it through the high speed running would not break down the chemical structure of the ink.

Ink Distribution

While on the subject of heat in the ink system, there arises the question of its effect on the rubber composition rollers. It was found that the usual rubber composition used on ink rollers of the offset press worked out here, too. Synthetic rubber is used for the blanket cylinder. And in the dampening system it was found that molleton covers were adequate.

Water Cooling

Getting back to the cooling water, we find it passing through steel chill rolls around which the web passes after it leaves the dry-

ing oven, thus cooling the stock to a work acceptable temperature.

Water used in the foregoing operations flows back to a reservoir where it is filtered and then cooled, to take its circulatory journey again through the working parts of the cooling system.

Dampening System

Such a continuous flow operation is also used in the dampening solution supply. Each of the four units is supplied with a dampening fountain pan through which the fountain solution continually moves, in one end and out the other, to go back to the central supply reservoir where the solution is filtered and then pumped back on its journey to the fountain again.

Two different solutions are kept in reservoirs, control cocks making it possible to send either of the two solutions to any one or all of the dampening fountains. This continual flow of the solution eliminates the scum cover which could form on the top of the solution in the pan and also the settling out of solution of the ingredients. Thus a constant pre-determined strength of fountain solution is assured.

Press Expansibility

It might be noted in passing that an extra double press unit can be added to print extra colors or special combinations if necessary. Units could also be cut out should less colors be required on either side of the web.

No Special Paper Requirements

Paper coming in rolls is of course well wrapped and can be ordered to moisture content requirements. It was said that no special paper requirements other than for standard offset were necessary for the paper. The loft in which the press is operated is not air conditioned.

Paper Feed

For the feeding of the roll, two special devices were installed. A new Cottrell-Harris design of paper tensioning device at the roll stand measures and controls the rate of feeding of the web to maintain a supply of paper without interruption at any speed.

Operating presently with a sheet cutoff, the press is designed to permit conversion to magazine folding by installing high speed Cottrell magazine folder.

Accurate Color Register

Registration on this press is said to be more easily accomplished than on sheet fed presses. Running Walt Disney Comic Book covers with four colors on the outside and four-color ads on the inside, requires accurate register. This was maintained at the speed at which the web was running at the time of inspection, slightly over 1000 ft. per min.

All subjects are proofed before being put on the press. Despite the difference in the proving and press operation, no difference was found in the appearance of the subjects.

Very little down time was said to result from plate failure or other causes. Copperized aluminum deep-etch plates were being used with some thought being given to the introduction of the Time-Life copper-chromium-aluminum plate.

The crew of five with its lithographic background training was doing a smooth job of press operation at the time guests were visiting the WP&L plant. It is undoubtedly true that there must be considerable carryover of Harris-Cottrell experience in the four-color press field when designing and building this press.

I. Tornberg

The dean of American newspaper machinery sales engineers rounded out a half century of his career in May. He is I. Tornberg, vice president and sales manager of the Wood Newspaper Machinery Corp.

Summarizing his half century of experience and contributions to greater productivity and economy of newspaper printing, Tornberg said: "Automatic devices are not justified unless they make work easier for the operator and, in so doing, pay their own costs in increased production. The mechanical production of a newspaper cannot be performed by robots. Automation should be regarded merely as a device to free men from noncreative duties, for more productive work. In my opinion, publishers should make available to their men the best tools obtainable in order to obtain the best possible results."

Tornberg began his career in the newspaper machinery manufacturing field in May 1907 when he joined R. Hoe & Co. as a draftman. He remained there for a period of 12 years, during which time he participated in the design of many machinery items manufactured by the company, including a web fed rotogravure press reported to be the first built in this country. By 1919, he was assistant chief draftsman. Tornberg joined the Wood organization in 1919 as a draftsman and engineer and soon was made chief of draftsmen. In 1928, he became sales engineer; in 1937 he was promoted to sales manager and finally, in 1939, was made vice president in charge of sales.

I. TORNBERG

He is rated an authority on newspaper machinery of all types and sizes and is a well known speaker before technical and regional newspaper groups. He has been granted more than 50 patents for inventions for newspaper presses and equipment assigned to the Wood Corporation.

Some of these inventions belong in the stereotype platemaking field, while others have made contributions to the press and folder field, such as cutting and folding mechanisms for web presses, web splicing devices, half speed mechanisms that make possible two page jumps on collect products, four color press units, and preregistering machines for color plates.

As for the current trend in the development of newspaper machinery, Tornberg says: "The constant demand by publishers has been for greater production and better quality of printing. This has forced development of more productive machines. This demand will continue and we may look toward manufacturers of newspaper machinery to meet this challenge by bringing forth newer and better brain-children."

Tornberg is active in religious work and in other community projects and enjoys classical music and amateur theatricals as hobbies. When younger, he participated for many years in amateur dramatics and it was on the stage that he met his wife. They have been married 43 years and have three children and three grandchildren.

If you can not find where it is made, write *Printing Equipment Engineer*. Information will be sent back promptly.

Discussions on ROP color, photocomposition, packless mats and foreman leadership highlight record Chicago newspaper conference

Technical Evolution

Interest in every phase of mechanical department operations, with special emphasis on ROP color, photocomposition and problems related to the advertising field, was dramatically displayed at the biggest Mechanical Conference ever to be staged by American Newspaper Publishers Assoc. A record 1708 attended the annual conference held at Morrison Hotel, Chicago, June 10-12.

Chairman of the conference was J. Harold Mintun, production manager, Pittsburgh (Pa.) *Press*, and chairman of the ANPA Mechanical Commitee. Activities comprising the three-day meeting were planned under the direction of Richard E. Lewis, manager, ANPA Mechanical Dept., New York, N.Y., and his staff.

Largest Exhibit

A major feature of the conference was an exhibit of newspaper equipment and supplies. This, also, set a record as the largest exhibition of its type to be held at an ANPA Conference. Seventy companies occupied 125 display spaces and according to reports, received enthusiastic response for their efforts in bringing to a central location equipment and supplies designed to increase productivity and improve quality.

The 1958 ANPA Mechanical Conference will be held at Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 23-25.

The opening of the conference was marked by the assertion that continuation of the newspaper as the number one medium of news dissemination and advertising rests on two factors—research and development. These were the words of James S. Copley, publisher, San Diego (Calif.) *Union* and *Evening Tribune*, who was scheduled to deliver the principal address. Because of illness his prepared talk was read by William Dwight, president and general manager, Holyoke (Mass.) *Transcript-Telegram*, and ANPA president.

Newspapers Straggle Along

Copley called the newspaper industry stragglers in failing to regear production methods. In making the evolutionary change in newspaper production, he said " . . . first we must take the steps that will improve our product with present production facilities." He cited the Teletypesetter tape and photocomposition as only two significant developments which have happened in the newspaper industry in 30 years.

The opening session included an address of welcome delivered by Russ Stewart, vice president, Chicago *Sun Times*. He remarked that no newspaper can survive without teamwork or solve its problems without team spirit among its major executives.

Paramount Problems

Copley listed three paramount problems facing newspapers as follows: (1) If we are to survive, we must check spiralling costs. (2) If we are to keep ahead of competition, we must improve our quality. (3) We must speed up the time between occurrence of a news event and delivery of our papers.

He suggested the future of the newspaper "might be resting" with mechanical executives. He called on publishers to furnish mechanical departments with "the latest, finest equipment obtainable." It will be the role of mechanical heads, he said, to not only keep abreast, but as far ahead as possible to keep ahead of new developments. He also advocated frequent trips to other newspapers by executives in the newspaper field.

Continuing on the need for applied research in the newspaper industry, Copley stated publishers should allot a portion of their budgets for developing new techniques and tools. Publishers should, he added, make use of new developments and methods already available, even though these facilities are not fully developed. He charged there was a reluctance on the part of many publishers to employ new devices and techniques. He asked why the bulk of metropolitan newspapers are using all manual typesetting machines even though automatic equipment has proved adaptable and is available.

Copley named some of the steps for improving newspapers as follows: Improved and faster methods for producing ROP color; uniformity in the quality of newsprint; better ink with more uniform quality; more accurate stereo plates; and elimination of packing stereo mats.

The San Diego publisher said newspaper color is the best hope for continued circulation gains. He added: "Color might even be the bread and butter of our revenue of the future." As proof of the growing recognition of color, he cited that there has been a 133% gain in its use since 1951. He said he hoped someone would devise a method to simplify the preparation of color plates, and predicted ". . . some mechanical wizard . . . someday will come up with the answer."

Quality Control Tests

The opening program also featured a talk on *Quality Control in Testing Newsprint, Ink and Other Materials* given by Dr. Gerard Larocque, New York (N.Y.) *Daily News*.

Referring to newsprint, he said the *News* was interested in three aspects of quality as follows: Appearance of the printing; basic weight; and pressroom running performance. He described the tests made to ascertain this quality. For example, to test for appearance a signature is taken from one newsprint roll and compared with a signature obtained from a different roll of newsprint. Both signatures must have been printed on the same press, with the same plates, impression and ink setting.

Ink shipments, Larocque explained, are checked about once a week for shade, color, strength and viscosity. This is done by comparing the current shipment with a standard reference sample which is renewed once a year.

The same principles apply as before in checking miscellaneous supplies. He said: "The first step is

Participating in the opening session of the ANPA Mechanical Conference were, left to right: J. Harold Mintun, production manager, Pittsburgh (Pa.) *Press*, and chairman, ANPA Mechanical Committee; William Dwight, president and general manager, Holyoke (Mass.) *Transcript-Telegram*, and ANPA president; Dr. Gerard Larocque, assistant business manager, New York (N.Y.) *Daily News*; Charles LaBlanc, Research Institute of America, New York, N.Y.; C. L. MacKinnon, ANPA Research Institute, Chicago; Steven Clark, manager of suggestion systems, New York (N.Y.) *Daily News*; and Russ Stewart, vice president, Chicago *Sun-Times*.

By MacD. SINCLAIR, *Editor*
and ED OWEN, *Associate Editor*

Dominates ANPA Talks

to decide what properties are important to the user. The second step is to locate a test which will measure that property. These tests are then used to compare the merit of competitive products . . . and to check to insure that the material delivered meets purchase specifications."

At the *Daily News*, rubber press rollers are checked for hardness and for fire resistance. Press blankets are checked for compressibility. Rope is checked for weight per running foot and also for tensile strength. Wrapping paper is checked for the number of sheets per pound and tearing strength. Dr. Larocque's complete talk will be featured in an early issue of *Printing Equipment Engineer*.

Utility of Suggestion Systems

A description of how a suggestion system works on a metropolitan newspaper was provided by Steven Clark, manager of suggestion systems, New York (N.Y.) *Daily News*. A suggestion plan, he cautioned, should never even be attempted without first considering how strongly top management wants one, and what standing it would have relative to other company matters.

Clark suggested that the man who runs the suggestion system should be tactful and be able to get along with people. He should be helpful to suggesters, giving personal attention whenever possible. Pains should always be taken to clarify reasons for rejection of an idea. "Whenever possible," Clark added, "we do this in person, informally and sympathetically, so as to encourage future suggestions."

The speaker believed a suggestion system may serve to bring the attention of management to capable people in the organization. It is also a means, he said, for improving company communications.

Clark argued against the theory a good employee should submit an idea anyway—even without a suggestion system. He claimed experience has shown that a formal suggestion system produces far more ideas from employees. Employees get into the habit of looking for ways to improve their own jobs, simplify other operations, or reduce accident hazards.

Awards at the *News* for acceptable suggestions are figured at 10% of the annual savings to the newspaper. This may be augmented by consideration of such factors as originality, possible additional safety features, etc. In the discussion that followed, Clark mentioned safety suggestion payments are determined by committee discussion.

"Guy with Many Problems"

"A guy with many problems" is the way Charles LaBlanc, Research Institute of America, New York, N.Y., described the foreman in a newspaper mechanical department in a talk entitled *Foreman Leadership on the Firing Line*. He also sympathized with foremen pointing out that increased costs have brought pressure to bear on foremen in every department to cut costs.

The difficult job of the foreman, he continued, is to get results from people. There is always the chance of misinterpretation of instructions to add to his frustrations. LaBlanc listed a few of the problems foremen face with workers: They don't always understand their duties; won't accept responsibility; lack a spirit of teamwork; lack cooperation; and

(*Continued on Page* 67)

Cost Reduction Predicted by Photocomposition Users

The newspaper industry is quickly taking note of the potential uses of photocomposition in its search for methods of combatting rising composing room costs. There was genuine evidence of this interest at the composing room session held at the Chicago ANPA Mechanical Conference. More than half of the program of this meeting was devoted to the subject of photocomposition and an exceptionally large audience was on hand to hear the reports of photocomposition users. The meeting was chairmanned by Henry Garland, production manager, Pittsburgh (Pa.) *Post-Gazette*.

According to a special ANPA report, released at the time of the conference, 20 newspapers are now using photocomposition in daily operations and five are experimenting prior to putting it into full production.

Substantial Savings Reported

Franklin D. Schurz, publisher and editor, South Bend (Ind.) *Tribune*, keynoted the composing room deliberations. He declared that the cost of setting photocomposed ads will be substantially below the cost of setting ads by hot metal. How fast these savings will be effected, he said, will depend largely on the number of newspapers experimenting with photocomposition.

Schurz described how the *Tribune* compared the labor and material costs, depreciation and rental of equipment for hot metal in the com-

Speakers at the ANPA composing room session were, left to right, seated: Herbert O'Sullivan, Mergenthaler Linotype Co.; William Ross, composing room, New York (N.Y.) *Daily News;* Herbert Cox, production manager, Allentown (Pa.) *Call-Chronicle;* Franklin D. Schurz, publisher, South Bend (Ind.) *Tribune*. Standing: Howard King, Intertype Corporation; Henry Garland, production manager, Pittsburgh (Pa.) *Post-Gazette;* Joseph Budai, composing room superintendent, Cincinnati (O.) *Enquirer;* Hans Rosberg, production manager, San Jose (Calif.) *Mercury* and *News*.

Part of the Record Attendance at ANPA Mechanical Conference

(All names read from left to right)

1—The R. Hoe & Co. display was visited by John L. Mahair, pressroom superintendent, Quincy, (Ill.) *Herald Whig*, and Harold W. Hubbard, stereo superintendent, Hartford (Conn.) *Courant*, shown chatting with Charles Fritschi of Hoe.

2—M. George Martin, production manager, Louisville (Ky.) *Courier-Journal* and *Times;* Morris Rice, Matrix Contrast Corp.

3—At the display sponsored by Cline Electric Mfg. Co. were Irvan Darnall, production manager, Springfield (Mo.) *News* and *Leader-Press*, and Gil Dayton, sales manager of Cline.

4—Harold Martin, assistant production manager, St. Louis (Mo). *Globe-Democrat;* Eddie P. Gaughan, New England Newspaper Supply Co.; Miss New England pinned carnations (different color each day) on coat lapels; Ellsworth L. Bailey, superintendent of production, Alton (Ill.) *Evening Telegraph;* Edward W. Evers, production manager, St. Louis (Mo.) *Globe Democrat.*

5—Joseph Doyle, dispatch department manager, Herbert S. Rand, assistant production manager, and Alfred C. Miller, pressroom superintendent, all of Baltimore (Md.) Sunpapers.

6—At the Imperial Type Metal Co. exhibit were: Colby Wilson, Imperial; Ray Burdine, production manager, Newark (O.) *Advocate;* Ed Schuller, Imperial; Leo J. Carle, mechanical superintendent, Elyria (O.) *Chronicle Telegram;* W. J. Prentice, Imperial.

posing room with similar costs for photocomposition. He said: "Our photocomposition costs have varied and naturally rose when we were training inexperienced men. However, during the past six months our cold type costs have averaged about 4% below the hot metal expense." He emphasized that they see many possibilities for saving time and money by further development in the photocomposition field, and added, ". . . we do not see like savings for hot metal composition."

The *Tribune* is presently setting ad display type up to 54 pts. on the Fotosetter. It will soon install a machine which will permit setting type up to 72 pts. Schurz said the new machine will enable setting about 95% of its paid advertising copy on the Fotosetter. The publisher also foresees the possibility that most of the darkroom work can be eliminated by the use of an automatic developing machine. He reported that a quadding and centering device will soon be manufactured which will also shorten the time for setting ads.

He called for still further improvement in the photocomposition proofing process and said that one firm is working on a machine to produce proofs in less time and at lower cost. In another statement he said: "It is our belief that faster machines

will be developed for setting ads and that these machines will be automatic in action and run from TTS perforated tape."

The speaker credited the ANPA-Dow high speed etching process as a method for greatly reducing the time for making combination flats. The *Tribune* estimates that within 55 to 60 min. after a photocomposed ad reaches the engraving department, the finished plate can be returned to the composing room. They are working on means of processing an ad through the engraving department in 30 min.

Schurz called on the mechanical and production executives present to ". . . think creatively and not allow daily details to absorb all of your time." He concluded that the future of many newspapers depends on the mechanical executives.

Advantages of Photocomposition

The belief that typographic quality can be improved and over-all unit costs can be reduced as much as 20% in the future through photocomposition was expressed by Herbert Cox, production manager, Allentown (Pa.) *Call-Chronicle.*

In listing the advantages of photocomposition, Cox said it would simplify the makeup of angles, boxes, odd shaped type areas, reversed type effects, overlays, tonal backgrounds, etc. Photocomposition also eliminates storage problems and simplifies filing of ads. Some ads can be repeated with no changes, he said, others with only minor changes. Prices or other components of the photocomposed ads can be picked up any number of times, always reproducing clean, clear sharp type and illustrations.

Referring to training of personnel for photocomposition operation, Cox said they must be taken from an already established pool of workers within the organization to keep from expanding costs. "It has been our experience," he added, "that composing room people can, if properly selected, adapt to the cold type process very well." The *Call-Chronicle* uses a Photon machine.

Like the previous speaker, Cox acknowledged that one of the weaker points of photocomposition operation is in making proofs. Likewise, he called for a good proofing system at low cost and had hopes that such a system would soon be developed. The *Call-Chronicle* uses a cold grid printer and Autopositive paper to make proofs directly from the film produced by the Photon machine. He said this was suitable for a small amount of proofs but would be too time consuming to produce proofs in large quantities. When a large quantity of proofs are needed, they use the finished corrected plate on a regular composing room proof press for the job.

The speaker also emphasized the techniques of handling photocomposition are completely different from any newspaper techniques now known or practiced. He said it has been found that a good ad machine operator can perform equally well on the photocomposing machine after a short period of training. However, men must be taught to work over light tables, he said, requiring new skills in the use of ruling pens and scissors

(*Continued on Page* 64)

First ANPA Session Held For Composing Machinists

The first Composing Machinists' session ever to have been sponsored by the ANPA Mechanical Conference was held on Tuesday night, June 11, at the Morrison Hotel, Chicago. The meeting was moderated by MacD. Sinclair, editor, *Printing Equipment Engineer.* The speaking panel was composed of the following: George Bolton, chief composing machinist, South Bend (Ind.) *Tribune;* Ike Challifoux, chief composing machinist, Forest City Publishing Co., Cleveland; Theodore Gardiner, chief composing machinist, Indianapolis (Ind.) *Star News,* and Coleman Wright, assistant mechanical superintendent, San Bernardino (Calif.) *Sun Telegram.*

Each of the speakers discussed a particular subject assigned to him and many valuable pointers in maintenance and operation of composing machines were presented.

Clear Sans Serif Typeface on Classified Slugs

Ike Challifoux discussed the subject, *Clear Sans Serif Typeface on Classified Slugs.* A number of newspapers have adopted sans serif typefaces for classified departments. Among the suggestions enumerated by Challifoux were that the machinists should see that the pot lever eyebolt adjustment is in proper order so as to have from ⅛ in. to 3/16 in. compression when the pot mouthpiece is locked tightly against the mold. Further, he advised, after the first contact of the mouthpiece with the mold, the mouthpiece should back away from the mold to permit second spaceband justification to take place. The mouthpiece temperature should be regulated so that the jets will pull away from the mouthpiece with the slug. To make the test to see if the jets are pulling out of the holes in the mouthpiece, a number of slugs should be cast so as to warm up the mold to see if this occurs. If the jets do not pull away with the slug but remain in the mouthpiece holes, the next line to be cast will have a disturbed face. Another important consideration is that the metal in the pot crucible should be kept as nearly normal height as possible, the speaker added.

Challifoux also stressed that when the plunger descends to cast a slug it should follow through slowly at the end of the stroke so that all of the metal possible will be ejected into the mold cell. This follow through action creates a sort of suction action when the plunger rises to normal position and the metal pot mouthpiece breaks away from the mold. The follow through action of the plunger can be regulated by adjusting the nut in the bottom of the plunger on the Linotype, and by regulating the size of the pressure release hole in the bottom of the Intertype plunger.

During the discussion period it was brought out that meticulous care should be exercised by the man doing the remelting of metal into pigs so that dirt, gum wrappers and dross will not be poured along with the metal into the pig molds. This is an important consideration when casting sans serif typefaces.

TTS Operation at South Bend (Ind.) Tribune

George Bolton, chief composing machinist, South Bend (Ind.) *Tribune,* discussed TTS operation at the *Tribune.* Bolton related that the *Tribune* is now in its fifth year of TTS operation. Machines must be kept in top mechanical condition at all times. This is a *must* for high speed operation. Bolton, in his own way, defined a necessary mechanical feature of TTS operated machines. He said that "There is a rhythm that tells the difference between operation and non-operation. In the case of the Teletypsetter it seems to me that the higher speed at which the machine is operated, the smoother the operation becomes. This is because matrices and spacebands move in one direction and they do not have time to strike the assembling elevator rails and bounce upwardly because there is another matrix or spaceband immediately behind coming into the assembling elevator."

While he stated that everyone concerned at the *Tribune* has learned many things since the start of TTS operation, everybody feels that per-

Participants in the first machinists' session to be held at an ANPA conference were, left to right, seated: Ted Gardiner, chief composing machinist, Indianapolis (Ind.) *Star-News;* MacD. Sinclair, editor, *Printing Equipment Engineer,* moderator; I. J. Chalifoux, chief machinist, Cleveland *Plain Dealer* and *News.* Standing: Coleman Wright, assistant mechanical superintendent, San Bernardino (Calif.) *Sun* and *Telegram;* George Bolton, composing machinist, South Bend (Ind.) *Tribune.*

fection has not as yet been reached.

Bolton continued: "Our primary effort is spent in producing a paper—not in improving linecasting machines."

Bolton qualified his remarks regarding the development of new devices for TTS operated machines by saying that pure necessity in some cases made it necessary to try to overcome certain operating difficulties. He said that all people at the *Tribune* were conscious of the necessity for overcoming mechanical and electrical operating difficulties and that in trying to overcome them they did not in any way interfere with regular daily slug production. He also sated that "We always try to make something that can be adapted to the machine with the same screws and holes already there, then if it fails we can quickly remove the trial piece. Thus, through trial and error, we have had some major success and found answers to many of our problems." Bolton explained that eight operators are assigned to the eight machines which are in use at the *Tribune*. The machines range in age from 5 to 23 years. He explained: "We now have five running at 12 lines per min., two machines at 11½ lines per min. and one at 10 lines per min."

Could Run 12 Lines per Min.

Bolton observed "If we could get a magazine that would hold more matrices we would be able to run them all at 12 lines per minute."

On the group of eight machines in operation he said: "We are averaging from 2800 to 3000 lines per day. It is not uncommon to see better than 4000 lines that have been set on any one machine in a day's time."

To indicate that all of the machines at the *Tribune* are not the latest model, Bolton stated that due to the varying ages of the machines in use they are equipped with different devices, some of which were the latest thing at the time the machines were manufactured. By way of explanation he said: "We have three pitch distributor screws, two pitch distributor screws, even some old distributor screws that were cut from wide auxiliary magazine machines. On this group of machines we are averaging from 2800 to 3000 lines per day.

In explaining specifically regarding the output of some of the machines, Bolton stated: "In the height of the basketball season we set a considerable amount of box scores. In some instances we set 69 box scores, 5 picas and 3 pts. wide, for a total of 1955 lines of type. These lines were run off on two machines in 2 hrs. and 15 min. This was not wire tape. The tape was perforated in our own shop by our own men." He explained also that 85% of all the news type that goes into the paper is set on the eight machines.

He explained also operation of the Allotter, which acts as an equalizer when the composing room superintendent is faced with a lot of wire tape, such as baseball scores from the night wire service. The Allotter allows cutting the number of required machines from the group to get the tape set. It distributes the tape from the *Tribune's* operators between the balance of the machines equally and automatically makes down time on any machine almost impossible.

Bolton also stated that a machine can be hooked up direct to any one operator or any special piece of copy. Any desired ratio can be obtained. In case of a serious breakdown a machine can be cut out and its tape will find another machine automatically. All the operator has to do is to open a switch. There are small lights on the sides of transmitter to inform the operator if he is in the Allotter or is operating direct.

MONTHLY MACHINE REPORT

MONTH	MACHINE NO.	YEAR
MAJOR REPAIRS		
MATS	BANDS	LINERS
NEW PARTS		
TOTAL COST		
REMARKS		
— — —		MACHINIST

Original of this monthly machine report blank is used in the plant of the San Bernardino (Calif.) *Sun and Telegram*. The original size is 6 in. wide by 8 in. deep. It is printed on 0.013 in. manila tag board. The two ¼ in. holes permit filing in a loose leaf binder. In the *Sun Telegram* plant, a monthly report is submitted by the machinist to the mechanical superintendent for each machine. Fourteen machines are operated in the *Sun Telegram* plant.

Composing Machine Parts Record

Coleman Wright, assistant mechanical superintendent, the San Bernardino (Calif.) *Sun Telegram*, explained a monthly machine report blank used in his plant. A separate report sheet is used for each machine in the plant and submitted to his office at monthly intervals. In the *Sun Telegram* plant 14 machines are in use. Ages of the machines range from 4 to 31 years. Five of the machines are Teletypesetter operated and five of the machines are equipped with Mohr saws.

Wright's explanation regarding parts costs for the different machines was extremely interesting.

He remarked: "As in previous reports the five tape machines reflect a much higher cost for parts, matrices and spacebands and again their production schedule is 16 to 18 hrs. per day with an output averaging 125,000 to 150,000 lines per week should explain the higher costs."

Theodore (Ted) Gardiner, presented an excellent and analytical discussion regarding keeping the machine in condition to produce 18 pt. to 36 pt. typefaces on display slugs. This seems to be quite a problem in many plants. Gardiner's excellent paper in amplified form with illustrations will appear in an early issue of *Printing Equipment Engineer*.

Questions and Answers

In addition to the panel members, a number of men well versed in their profession asked and answered questions from the floor. Among them were Walter Severin, assistant manager, Intertype's mid-western office in Chicago; William J. Mulroy, of the Chicago branch, Mergenthaler Linotype Co.; Quido E. Herman, manager, West Coast branch, Star Parts, Inc., Los Angeles; Ed Maggi, chief machinist, Phillips-Van Orden Co. San Francisco, Calif.; Harold Johnson, chief composing machinist, Columbus (O.) *Dispatch;* Harvey F. Schieber, mechanical superintendent, Copley Newspapers, Los Angeles; Clyde B. Kennard, chief composing machinist, Chicago *Daily News;* and a number of others.

One of the questions submitted was related to the replacing of mold disk studs and stud blocks in which the machinist complained that he was still getting a variation in the trim of the slugs. He wanted to know why. The answer here was that, assuming that the studs and stud blocks have been properly applied with respect to bearing of the mold slide against the machine column and supported by the mold disk guide adjusting screws at the left of the mold disk, the probable answer would be in the case of an old machine, that the mold disk pockets for one reason or another are out of alignment. In this case it will be necessary to shim a mold to bring it in alignment with the left hand side trimming knife. Another observation was made that in rare cases a machinist applying studs and stud blocks is not careful to see that all dirt and burrs are removed from around the seating surface in the mold disk when the studs are applied. In the case of one cocked stud the trim of the opposite mold in a four mold disk will be affected. In any event, the one mold mounted over the offending stud is trimmed differently than the other molds in the disk.

The question: *How can you cast a 6 pt. sans serif face on a 5½ pt. slug for the classified pages of a newspaper without cutting off the descenders?*

The answer was that the matrix manufacturer should be consulted to see if the descenders could be shortened when punching descender matrices to avoid trimming off tails of the characters on the slug by the side knife.

In answer to the question: What *causes the typefaces to vary on the lefthand side of the line?* Edward Maggi replied that this was a question of alignment with respect to the first elevator aligning bar and the aligning grooves in the mold. He explained how to obtain parallelism of the mold and first elevator jaws during justification and lineup.

In response to the question: *What causes a word to appear cold now*

Some of the Executives Attending Chicago ANPA Conference

(All names read from left to right)

1—At Wood Newspaper Machinery Corp. exhibit were: I. Tornberg, Wood; James Webb, stereo superintendent, Windsor (Ont.) *Daily Star;* P. Romano, Wood; E. A. Rehm, Wood; Miss Jerrie Long, New England Newspaper Supply Co.; C. L. Buttermore, mechanical superintendent, and Leon A. Link, production manager, both of Cleveland *Plain Dealer* and *News;* Frank P. Regensburg, superintendent, Jersey City Printing Co., Jersey City, N. J.

2—R. B. Lee, Fairchild Graphic Equipment; Emerson Nye and V. J. Furr, Cybergraph Corporation; Orel Harper, production manager, Tulsa (Okla.) *World* and *Tribune.*

3—H. L. (Mike) Luloff, pressroom superintendent, Madison (Wis.) Newspapers, Inc.; Clay Wellman, sales manager, Ludlow Typograph Co.; Earl H. Barker, mechanical superintendent, Rochester (N.Y.) Gannett Newspapers; J. Terrance Mahan, stereotype superintendent, Akron (O.) *Beacon-Journal.*

4—At exhibit of Gerrard Steel Strapping Div. were: R. G. Patterson and A. R. Johnson, both of Gerrard; Edwin Koffke, mailroom superintendent, Milwaukee (Wis.) *Journal.*

5—W. Delbert Reed, pressroom foreman; W. W. Powell, business manager; John P. Eck, composing room foreman, all of Clarksburg (W.Va.) *Exponent* and *Telegram,* watch Erv Arpe of Morrison Company demonstrate saw-trimmer.

6—Huddling at Shaffstall Equipment Inc.'s exhibit were: E. Jones and Everett Shaffstall of that firm; Quido E. Herman, Star Parts, Inc.; William E. Waltzer, production manager, Fond du Lac (Wis.) *Commonwealth Reporter;* L. S. Smith, publisher, Du Quoin (Ill.) *Call.*

and then in a line in a column of type? This can be caused either by a plunger which hangs momentarily at the top of the crucible well before making its casting stroke. or the metal may not have been drossed properly at the time the pigs were remelted.

It is not possible for ***Printing Equipment Engineer*** to publish a full report of the composing machinists' meeting. However, a report in full will be published by the ANPA Mechanical Department in due time.

Reprints Available

During the course of the meeting, it was explained that three reprints of technical articles related to line-composing machine adjustment are available. Make your request to nearest agency of company mentioned. Titles are as follows:

Parallel Lockup of Vise and Molds, by Walter Severin, Intertype Corporation.

Replacing Locking Studs and Stud Blocks, by William Mulroy, Mergenthaler Linotype Co.

Clear Type Faces for Reproduction Proofing, by Quido Herman, Star Parts, Inc.

Large and Small Plants Tell How They Produce ROP Color

What was called the *ROP Color Session* was held at the Morrison Hotel, Chicago, during the ANPA Mechanical Conference on Monday afternoon, June 10.

An enthusiastic crowd of newspaper executives filled the ballroom to hear about the latest techniques in producing ROP color by large, medium, and small size newspapers.

At this session, W. E. Gibbons, production manager of the Portland (Ore.) *Journal* and a member of the ANPA Mechanical Committee, presided. He was assisted by the following panel: Richard E. Lewis, manager, ANPA Mechanical Department; Walter Merkel, photoengraving foreman, Holyoke (Mass.) *Transcript-Telegram;* John Zajac, pressroom superintendent of the same paper; Clayton Weber, photoengraving foreman, La Crosse, (Wis.) *Tribune;* Fred Hawes, advertising manager, Monterey (Calif.) *Peninsula Herald;* B. G. Burke, production manager, San Diego (Calif.) *Union and Evening Tribune;* Vernon R. Spitaleri, research director, Miami (Fla.) *Herald,* but now executive vice president of Sta-Hi Corp., and Robert Ellis, *United Press,* New York, N. Y.

Lewis Explains Department Services

Richard E. Lewis, although his subject was not related entirely to the subject of ROP color, nevertheless explained the various services which are available for the asking by member newspapers. He stressed, among the other services furnished by the Mechanical Department, that information is available from the department related to ROP color printing in the way of plant procedures, recommended standard colors, preparation of copy art and photography, preparation of engraving and duplicating materials. He also explained that the Mechanical Department has introduced a color matching service for member newspapers. Included as a part of this service is an ink testing facility so that members may be assured the ink which they use will conform to the ANPA-AAAA standards. In a series of slides he showed how some of the ink secured by member papers did not match the color process ink specifications as previously issued.

Spot Color Printing Direct From Engraving

Walter Merkel discussed *Spot Color Printing Direct From Engravings* as practiced for 2½ yrs. at the Holyoke (Mass.) *Transcript-Telegram.* Circulation of the paper is 28,000.

Merkel explained his paper has printed spot color ads direct from engravings along with special eight page supplements carrying two colors on each page. Due to present mechanical limitations all spot color ads are confined to full page size. He remarked: "Black and one or two colors is our maximum in spot color printing."

Material for the spot color advertisements comes to the engraving department assembled with an overlay to indicate the colors, bendays, or any other special treatments. The advertising manager of the paper, the department representative, and the photoengraving superintendent have a conference when the color ad copy is received to make sure that everyone is in agreement and that no discrepancies will arise later.

All colors are black on the drawing or outlined for bendays. The negatives are either made on strip film and stripped up on glass or on thin base film which works out just as well, he commented. Color separating is done on the negative by opaquing out everything but the color wanted.

Merkel explained: "No dead metal is painted up within the outer limits of the printing surface. We are using the two bath system of Dow-ANPA etching with a sodium solution in the first bath. This etches combination or line flats to a depth of 0.014 in. to 0.016 in. in the first machine. In the second machine is contained a deep etch solution. The plates are etched down to approx. 0.045 in. to prevent the bottoms from printing up. We are using the standard ANPA formula with some variations in paddle speeds."

In his remarks Merkel explained that when all plates have been deep etched the center register marks are scribed into the floor of the plate, so that no matter how the plate is trimmed, it will be possible to mount it in register.

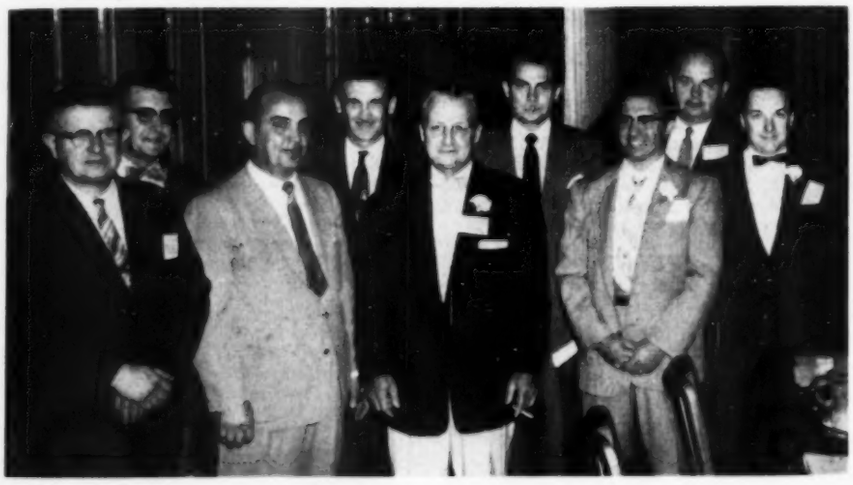
Color proofs are now pulled on an engraver's proof press.

In curving or bending the plate, the first step in preparing the original photoengraving from which the printing is done is to place packing material in the open areas of the plate. Thickness of this material is approx. 0.045 in. which, when applied to the remaining 0.020 in. of the floor, gives a compression thickness of 0.065 in. The engraving is then placed face down on a piece of sheet metal 0.015 in. thick and is fed through a three roll bender. The plate is passed through the bender several times with an increasingly narrower set until the diameter of the engraving is somewhat smaller than the press dummy diameter for added tension hold.

A special steel dummy 0.367 in. thick is used as a saddle for mounting the plates. The plates are fixed to the dummy or saddle with double coated adhesive tape. The temporary packing material is removed from the non-printing areas of the plates. The assembled plate is now ready to be mounted on the plate cylinder in the press after which the pressroom foreman takes over.

Color Separation Service

Clayton Weber, engraving superintendent, La Crosse (Wis.) *Tribune,* discussed *Color Separation Service.* Weber related some of the obstacles encountered some time ago when the *Tribune* wished to start printing ROP color. His organization felt that the equipment and skills required would be too costly for his paper's operation. He related that while the *Tribune* had printed some of the releases of the available mat services, yet these releases just didn't give what he liked to call "pictorial journalism". His firm wanted to run process color of people and places and activities around La Crosse. It was felt that reproductions in pictures of events happening around the



Speaking panel for ANPA's ROP Color Session was composed of the following speakers (left to right): B. G. (Jerry) Burke, production manager, San Diego (Calif.) *Union* and *Evening Tribune;* Fred Hawes, advertising manager, Monterey (Calif.) *Peninsula Herald;* John Zajac, pressroom foreman, Holyoke (Mass.) *Transcript-Telegram;* Clayton Weber, photoengraving foreman, LaCrosse (Wis.) *Tribune;* Chairman W. E. Gibbons, production manager, Portland (Ore.) *Oregon Journal;* Vernon R. Spitaleri, research director, Knight Newspapers, Miami, Fla.; Walter Merkel, Photoengraving foreman, Holyoke (Mass.) *Transcript-Telegram;* Richard E. Lewis, manager, ANPA Mechanical Dept.; Robert Ellis, United Press, New York, N.Y.

immediate neighborhood would offer a far greater impact on readers than the canned illustrations of general subject matter.

After extensive survey of the probabilities for printing ROP color it was decided that it could be undertaken with one exception—the *Tribune* lacked the specialized equipment and specially trained men needed in making color separations.

He related that in 1956 the Chesley F. Carlson Co. offered what would seem to be the solution to the color separation problem. In consultation with E. L. Burgess, mechanical superintendent of the *Tribune*, and associates of that paper, it was decided to undertake three color process printing in the *Tribune* using Carlson's separations. The 75 line screen was selected as being best suitable to obtain better color gradation. ANPA color ink standards are used.

Carlson is supplied with a transparency taken by one of the *Tribune* photographers for each color subject. While the Carlson firm will work with 35 mm. size, that firm prefers 2¼ in. by 2¼ in. or 4 in. by 5 in. transparencies. Generally, the *Tribune* tries to give Carlson one week for production of the separations, although the separations can be made in less time.

On receiving the screen negatives they are processed and printed on zinc just as though the work were being done from black and white copy or any normal halftone negatives. Rollup ink is used for etching purposes.

All ROP color work at the *Tribune* is printed direct from zinc engraving.

Weber said that when an advertiser wishes to print across the fold on a double truck that zincs as large as 14 in. by 11 in. have been successfully fastened between plates with double coated tape.

Weber explained the color registering process for a set of plates. The plate containing the most detail is mounted on wood and the proofing is done on a piece of clear acetate. He said: "We proof on a clear piece of acetate which we have taped or pinned to a block alongside the key plate. We then take out the key plate and set in our block for the next color. Using the acetate proof, we place it over the next proof, be registered, and, after it is registered, mount it in our heat mounting press. We proceed with the third and last plate in the same manner." He also explained that the separated screen negatives have a register mark on the outer edges of the negatives.

"We place the mounted cut back in the heat mounting press after proofing," he said, and after "they are heated to the proper temperature we remove the plates from the blocks and they are ready to go to the pressroom for mounting on the curved press plate."

Open spaces in the stereotype plate which are intended for reception of the photoengravings are put in a curved plate router where the area is routed to proper depth for reception of the original zinc engraving which are of the 17 ga, variety. The color plates are curved in what is basically a sheet metal roller and are fastened to the sterotype plates with double coated tape.

During the course of his address, Weber stated: "One of the most encouraging things about our production of editorial color is its low cost to us. Carlson's charges are reasonable for fully corrected three color screen negatives. Up to 5 in. by 7 in. the cost is $75. Up to 8 in. by 10 in. the cost $95. Up to 11 in. by 14 in. the cost is $140."

During the question and answer period, Weber stated that the original photoengravings are loosened for removal from the stereotype plates with a torch.

ROP Color Seminar—Dr. Thomas S. Curtis (seated), Curtis Laboratories, Inc., was the featured speaker at a seminar on ROP color platemaking held by Chemco Photoproducts Co., Inc., during the Chicago ANPA Mechanical Conference. More than 100 invited guests were on hand for the discussion led by Sam B. Anson (standing), Chemco sales manager. Dr. Curtis said too many highly skilled craftsmen were devoting time to correcting mistakes in reproducing ROP color which never should have been made. He called for a spirit of teamwork between engravers and photographers to overcome problems, and for more use of editorial color as a stimulant to advertisers using color.

Direct Color Separation With Polaroid Camera

A novel method for producing ROP color was discussed by Fred Hawes, advertising manager of the Monterey (Calif.) *Peninsula Herald*. Some samples of work exhibited at the ANPA Mechanical Conference in Chicago were creditable. Hawes explained: "Direct separation with Polaroid Land camera and Polaroid's PolaPan film is accomplished in the same way as the conventional separation, except that negatives are eliminated along with all darkroom procedure." Hawes confessed that he did not know what may be the ultimate application of the use of the Polaroid Land camera and PolaPan film in ROP color work. He thought that smaller papers and others on the threshold of process color might find some aid and comfort in this comparatively uncomplicated method. He observed: "Whether this will lead to the development of a single shot camera which will produce a set of separation prints in one or two minutes is for the future to decide."

He stated that "while direct separation with Polaroid Land camera and PolaPan film is accomplished in the same way as the conventional separation, except that negatives are eliminated along with all darkroom procedure, it is recognized that orthodox masking is not possible."

Hawes stated that correction can be made by retouching the prints and by varying the development time to get lighter or darker values. The shutter speeds were adequate to produce a set of prints balanced to a gray scale. Where unbalance is wanted, time and development can be adjusted. He exhibited a number of specimens, all of which would seem to indicate that a method would be useful to smaller papers for ROP color printing.

Another Californian, B. G. Burke, production manager of San Diego (Calif.) *Union and Evening Tribune*, discussed ROP color at the San Diego *Union and Evening Tribune*. His talk was most interesting and instructive.

Spitaleri Discusses Newspaper Color

Vernon R. Spitaleri, research director, Knight Newspapers, Miami, Fla., discussed *Newspaper Color Production*. His address was well prepared and he showed many examples of actual ROP color printing to illustrate the important points of this type of color printing.

He was enthusiastic about the growing use of color in daily newspapers. However, he said, any realistic appraisal of newspaper color presently being produced around the country must necessarily conclude that with the exception of a handful of outstanding performers, mediocre results are still being obtained by the majority. Spitaleri gave some reasons for lack of consistent color printing quality. Among them were: Poorly equipped mechanical departments for reproducing color, lack of skill and technical knowhow, lack of cooperation between agencies and newspaper mechanical departments, and also within newpaper mechanical departments, disregard for standards established for inks, procedures, and the like.

Spitaleri urged all of his listeners to equip properly in the mechanical departments for the best color reproduction.

Continuing, he said: "Even when produced with the best equipment and techniques, newspaper stereoplates cannot compare in quality to original engravings or electrotypes. Newspaper columns must necessarily be run on the same presses that produce our regular black sections, using newspaper press packing and printing on a continuous web of ordinary newsprint at the same high speed required for regular production period."

He also asserted: "The vital importance of using the best available equipment in each department cannot be emphasized too strongly. To scrimp on needed equipment to do a good quality, consistent color job fast and economically, can only be considered foolhardy and decidedly false economy."

Among the points made by this speaker during his address was one that uninitiated artists and photographers must virtually be reborn with

respect to preparing art work for ROP color reproduction.

"Our experience," Spitaleri said, "has shown we can consistently produce comparable process plates from the same original material in three colors for substantially less than the cost of four color plates. Here, perhaps, is the biggest area of differing opinion. Although we could not say this three years ago, we can now say unequivocally that with the latest developments in three color techniques we can not only produce comparable quality but in many instances superior quality."

As he has done in the past, Spitaleri stressed that no discussion of newspapers can be complete without at least some mention of the importance of organization and team work. He said it is important that the team should consist not only of the various production department heads, but embrace all of the key production personnel, plus all those in editorial, business and advertising departments concerned with color.

One of the interesting comments made by the speaker was that: "We have finally developed our three color techniques to the point where we have not just minimized, but we have completely eliminated staging and re-etching."

LogEtronics Enters the Darkroom

Robert Ellis, superintendent of Newspictures Bureaus, United Press Association, Inc., New York, N. Y., discussed the LogEtronics equipment being used experimentally by his organization for improving detail in photographs. This is done automatically in the machine—that is, for instance, where there is little or no detail in the shadow area of the photograph, the machine functions to bring out detail if it is there at all. In the machine, traditional optics are utilized in reproducing a photograph. But for a light source a 5 in. cathode ray tube is employed. A constantly moving beam of light traced on the face of the tube projects through the optical system to the photographic paper. The beam passes through all parts of the negative about once a second so that the entire negative and the photographic paper below is traversed several times during an exposure period of 8 sec. to 10 sec. This light beam is approx. half the size of a dime and illuminates only one small circle of the negative at any moment.

Ellis explained: "At the enlarger lens a beam sampler reflects a portion of the spot passing through the negative at any moment into a photo tube which, through amplification, is able to modulate or control the light source emanating from the cathode ray tube. This is done in reverse ratio. Thus if at the moment of consideration, a heavy portion of the negative is being scanned or illuminated by the cathode ray tube, the spot of light hitting the beam sampler, reflecting this low intensity of light into the photo tube, signals for additional light and the cathode ray tube instantly burns brightly. But as the deflected spot moves on and finds a thin area of the negative, more light gets through to the beam sampler which signals back to the cathode ray tube its reverse information, thus causing the cathode ray tube to burn with less intensity."

Joint Press and Mail Meeting Held at the ANPA Conference

At the Pressroom and Mailroom Session held during the ANPA Mechanical Conference, Morrison Hotel, Chicago, Tuesday morning, June 11, a major part of the speaking program was taken up with printing press improvements as developed recently by the various manufacturers.

The meeting was presided over by Harry Sloan, production manager, New York (N.Y.) *Mirror*, and by Earl R. Weiskittel, pressroom superintendent of the Youngstown (O.) *Vindicator*. Both men are members of the ANPA Mechanical Committee.

One of the extremely interesting presentations was that of Richard Singer, director of printing, *All Florida Magazine*, Ocala, Fla. It consisted of a sound movie in which the production steps taken in producing *All Florida Magazine* were illustrated and described. The magazine is printed direct from original photoengraved plates curved to fit the plate cylinders. *All Florida Magazine* is printed by three color process at a speed of 34,000 papers per hr.

A step by step description of the preparation of the plates which are etched by the Dow-ANPA etching process was given. Singer described at some length the curving of the press plates in a three-roll bending machine. Double faced adhesive tape holds the plate to a steel dummy. Singer stated negotiations are under way with a press manufacturer to make and market the machine for curving the plate when it has been fully developed.

One of the interesting sections of Singer's talk during which he described the Perry method of printing the *All Florida Magazine* was in the use of heat set inks, similar to those employed by the larger magazine printers on their presses. While the specially printed web is passing through the heating chambers of the drying apparatus, a system of blow torch flames dries the inks with extreme rapidity.

Goss Paster Pilot

James J. Brown, of Goss Printing Press Co. (Miehle-Goss-Dexter) stated that the Paster Pilot recently introduced by the Goss Printing Press Co. permits fully automatic splicing of newsprint rolls on high speed rotary presses. He discussed the installation in the South side plant of the Chicago *Daily News*.

The Paster Pilot is completely contained within the covers on the spider spindles and the automatic paster control panel. The design of the controls permits all splicing cycles to be performed in the same amount of time at press speeds up to 60,000 papers per hr. Regardless of press speed the expired core is maintained to a preset diameter automatically. Paper waste can be held to as low as 1/5 of 1% with as little as ⅛ in. paper wrap on the expired core.

Automation in the Reelroom

Sam Oderman, of Wood Newspaper Machinery Corp., Plainfield, N. J., discussed *Automation in the Reelroom*. His address was illustrated with a movie in which the Wood Automatic Paster Control was described. Oderman stated the new mechanism is primarily completely automatic and operable through the complete range of press speeds from threading right up to full speed of

Pressroom-Mailroom Session at Chicago ANPA Mechanical Conference was supplied with a goodly number of speakers. Seated, left to right: William Henderson, R. Hoe & Co.; Sam Oderman, Wood Newspaper Machinery Corp.; Co-chairman Earl Weiskittel, pressroom superintendent, Youngstown (O.) *Vindicator*; E. J. Flannery, Cline Electric Mfg. Co. Standing: Ralph Drew, United Shoe Machinery Corp.; Co-chairman Harry Sloan, New York (N.Y.) *Mirror*; Richard Singer, director of printing, Perry Printing Processes, Ocala, Fla.; James J. Brown, Miehle-Goss-Dexter; Ron White, assistant production manager, Chicago *Daily News*.

the presses. Safety devices protect the operator and the equipment as well. This is accomplished through warning lights and audible alarm.

Cline Synchromatic Paster

E. J. Flannery, Cline Electric Mfg. Co., Chicago, discussed *Paster Automation* by Cline Electric at the Kansas City (Mo.) *Star.*

He stated the Synchromatic Paster assures top performance of tensions and pasters, eliminating the human factor in the operation and thus improves press performance four ways: (1) Increases production per press hour; (2) Decreases pressroom costs; (3) Reduces waste, and (4) Improves quality of products. Flannery related: "After the new roll is on speed, and as the diameter of the expiring roll decreases, the synchromatic controller automatically compares the voltage from spindle tachometers and the master tachometers again and actuates the splice when the preset diameter is reached. This diameter is also set in the controller by means of a dial and will hold for any press speed. This setting can be within ±1/32 in. if desired."

This speaker stated that: "Normally the unit at Kansas City is operated at about 43,000 i.p.h.; pasters have been made at speeds commencing at threading to 52,500 i.p.h. At high speeds the automatic feature eliminates any chance of operator error which on manual units is often the cause of missing the pasters.

Hoe Press Development

William Henderson of R. Hoe & Co., Inc., delivered an illustrated address on *Press Development.*

He mentioned briefly and progressively some of the improvements in press construction which had been developed by R. Hoe & Co. over the past number of years.

He discussed at some length Hoe's new 3:2 ratio folder, the first one of which is now in operation at the Pittsburgh (Pa.) *Press.* This folder was developed to handle papers consisting of more than 112 pages.

He explained briefly the basic principles of operation of both the 3:2 and 2:1 folders. The designation 3:2 or 2:1 is arrived at from the fact that the folding cylinder circumference of the former is equal to the length of three copies and the cutting cylinder circumference is equal to the length of two copies. A 2:1 folder, on the other hand, has a folding cylinder circumference equal to the length of two copies and a cutting cylinder circumference equal to the length of one copy. In this case, the cutting cylinder serves as the collecting cylinder also.

"It will be obvious," he said, "that when a copy is wrapped around a three up folding cylinder, the variation in circumferential length between the outside teeth of a copy and its inside teeth is less than the variation which shows on a copy wrapped around a 2 up folder. In considering products above 112 pages, this becomes important in resultant appearance of the folded and delivered product. Another advantage which a 3:2 folder could have, due solely to the size of the cylinders, is strength and rigidity for the cylinder to resist the weight and impact of a cut. The three up folding and collecting cylinder is a solid steel forging.

On the whole equipment, special attention has been given to the operation of changing the folder from a straight run to a collet run and vice versa. This is accomplished by furnishing two control knobs—one to engage the epicycloidal gear motion for the folding blade and one to engage the pin cam clutch to permit it to rotate. Both handles are located on the outside of the folder housing for convenience in changing over from collect to straight run or vice versa. The new Hoe 3:2 folder is designed for speeds of 60,000 papers per hr. and products of 128 pages in size.

Rope-Tying Machine for Newspaper Bundles

A Tymaster newspaper bundle rope-tying machine was discussed by Ralph Drew, United Shoe Machinery Corp., Boston. His address was illustrated with pictures on the screen.

The Tymaster rope-tying machine is a new development which was engineered by the United Shoe Machinery Corp. and is now being used experimentally at the Boston *Herald Traveler.* It is not expected that the new machine will be available for general newspaper use before early in 1958.

The machine is enclosed in a cabinet with a flat top. When the bundle of papers has been placed properly underneath a yoke arrangement, a bar drops by gravity to compress the bundle, and with lighting-like rapidity the bundle is tied with sisal twine. This twine is of the one ply variety. Its speed is comparable to that of existing machines. Bundles weighing up to 65 lbs. each can be tied rapidly. When asked from the floor regarding the relative cost of wire and twine, he stated sisal twine can be purchased at 25c per lb. in 300 ft. rolls as compared to 16 ga. wire which costs 12c per lb. for 96 ft. of wire. Drew stated tensile strength of rope and wire are comparable.

Counter-Stacker Progress Report

Ron White, assistant production manager, Chicago *Daily News* gave a progress report on the Cutler-Hammer Counter Stacker which has been installed in the Southside plant.

White related that the counter-stacker had been in service in the *News'* Southside plant since February. Operation of the equipment has been intermittent.

White said: "Its basic mechanical operation is sound in our estimation, but of course we can always see another way to do a job and with the Stacker we might have done it a little differently."

He mentioned that the *Daily News* model is in need of a new type basket assembly to improve functioning of the machine. The basket is the mechanism in which the papers drop before being delivered to the mailroom conveyor.

At the *News,* some difficulty has been encountered with good counting at press speeds in the area of 35,000 to 40,000 papers per hr. One of the difficulties experienced was with the electric eye computing device which tends to miscount on collect run although maintaining accurate count generally on straight runs.

Towards the conclusion of his address, White stated: "The stacker is someday going to be a piece of equipment capable of standing alongside the linecasting machine, the stereocasting box, and the rotary press as a dependable and essential part of the publisher's machinery."

Spitaleri Joins Sta-Hi

Vernon R. Spitaleri, who wrote the *ROP Color Printing for Daily Newspapers* series currently appearing in *Printing Equipment Engineer,* has been named executive vice president of Sta-Hi Corporation, newspaper machinery manufacturers. He assumed his new duties July 1. For the past four years Spitaleri has been research director for Knight Newspapers, Inc. Previous to that he spent seven years with the ANPA Mechanical Dept., the last four years as manager.

Vernon R. Spitaleri (left) is now executive vice president of Sta-Hi Corporation, Whittier, Calif. Announcement was made by Sta-Hi Pres. Craig C. Baker (right) at the recent Chicago ANPA Mechanical Conference. Spitaleri was research director for Knight Newspapers in Miami, Fla.

In his new position he will help direct an augmented program of product improvement and development of new Graphic Arts machinery and methods, according to Craig C. Baker, Sta-Hi president.

The new Sta-Hi executive has been active for a number of years in various trade associations and printing organizations. He is currently a director of the Research and Engineering Council and a member of the Technical Association of the Graphic Arts. He is a graduate of Carnegie Tech School of Printing Management and saw action as a naval officer in World War II. He is a well known speaker. His last engagement was at the June ANPA Mechanical Conference in Chicago where he discussed ROP color.

Stereotypers Hear of Progress In Equipment and in Processes

The last and concluding session of the ANPA Mechanical Conference held at Morrison Hotel, Chicago, on Wednesday afternoon, June 12, was devoted to stereotyping. Leven T. Deputy, production manager of the Dallas (Tex.) *News*, presided as chairman.

The first speaker was Robert Dumke, research coordinator, Milwaukee (Wis.) *Journal*. His subject was *Mat-Pak with Direct Pressure Molding*. While showing a number of slides on the screen, Dumke related his paper's experience with Mat-Pak while using direct pressure molding. He stated that approx. 18 min. are required to prepare a standard mat for the casting box. On the other hand, 6 min. are required to prepare a mat molded by the Mat-Pak process. While the *Journal* is not entirely on the Mat-Pak method, it is hoped that the entire operation can be swung over before too long a time.

Dumke explained that the mats used for direct pressure molding contain 17% moisture with approx. ⅝ in. shrinkage. The molding combination consists of the mat, a sheet of Mat Pak with tissue side upward is placed on top of the mat. Then a 0.062 in. press blanket and 1/16 in. fibre board is placed on top of the Mat Pak. With this type of molding combination, all form elements must be held in narrow plus or minus tolerance with respect to type high. Two pressures are used in molding the mat. Initial pressure is 12 sec. at 250-290 T. The press automatically switches to secondary pressure which is 30 sec. at 100 T. Temperature of molding press platens for cold molding is 150 deg. No vacuum is used in cold molding. After molding, the mat is placed in a *flat* pre-shrink roaster for 50 sec. The mat is now placed in the Sta-Hi machine for treatment the same as for a conventional mat.

Experiences with Packless Mats

John Rausch, production manager, Aurora (Ill.) *Beacon-News*, discussed *Experiences with Packless Mats*. During his address he discussed ANPA's Mat-Pak and the no-pak mats developed by Wood Flong Corp. and Burgess Cellulose Co.

With respect to Mat-Pak, he discussed the minor changes in stereotype equipment, as well as manipulating techniques which are necessary when the new process is installed.

He advised that it must be borne in mind that each shop will experience certain difficulties which are not universal in every newspaper printing establishment. He related that: "We had good results with the use of Mat-Pak on our solid news pages, but had some difficulty with open and classified pages in that it was hard to maintain the rules on the classified pages.

Rausch also stated it is difficult to make recasts from Mat-Pak on repeat ads. "We did experience dropouts and niggerheads," he said, "in the use of the Mat-Pak mats which we have not been able to thoroughly correct. It should be borne in mind that one of the most essential things is that absolute and proper depth must be maintained in all material."

At the present time, he related, his paper is not using Mat-Pak entirely, but it is of advantage especially when there are a lot of late pages to get out in order to maintain proper deadlines.

He mentioned he had experimented with the Wood Master Mat as well as the Burgess Mats of the packless variety.

Following Rausch's address, a number of questions from the floor were asked and were answered. Joseph Budai, composing room superintendent, Cincinnati (O.) *Enquirer*, stated that in the *Enquirer* plant 15/16 in. shrinkage is obtained with Mat-Pak.

In reply to another question, someone stated that curved Mat-Pak mats can be used to make flat casts without any trouble but there is some loss of space depth.

Sta-Hi Tandem Router

Glen R. Hutchinson, production manager of Los Angeles (Calif.) *Times* and *Mirror-News*, discussed the field testing which had been conducted in his plant with respect to the Sta-Hi Tandem Router over the last two year period. He said the operators now like the machine. Up to the time of the conference, approx. 100 hrs. of routing time including color work had been done on the Sta-Hi Tandem Router, (See article Sta-Hi's Twin Plate Router, p. 84, June, *Printing Equipment Engineer*.)

New Developments in Stereotype Equipment

The next speaker was I. Tornberg, vice president, Wood Newspaper Machinery Corp. He explained that the new Wood Autopony is a machine which has been designed to utilize the mat stripping feature of the Wood Automatics and Juniors. The machine has been so designed that the stereotyper can cast as many plates as needed from each mat without resetting the mat after each cast. With addition of the necessary power actuated plate pushing device, the complete casting, shaving, and cooling cycle becomes automatic. The production rate of the new Autopony is 2½ plates per min.

Other Features Mentioned

Tornberg explained in detail and by means of slides on the screen the activation of the automatic cycle for casting, shaving, and cooling any number of plates desired from the mat in the casting box. The plate counter is set to the number of plates required and after the correct number of plates have been cast and shaved the machine shuts off automatically.

Safeguards have been provided on the new Autopony against double pours, pours without mats, and other possible mis-uses.

If the tensionplate or underside plate lockup is used in a plant in which the Autopony has been installed, the finished plate from the Autopony may be slid onto the Wood Automiller. Here a gang of four cutters can cut eight pockets in a plate in less than 24 sec.

He explained some of the new features incorporated in the Automiller and Pre-registering attachment. Plates are held on the saddle of the Automiller by a pneumatically operated clamping device. A segment arc on the Pre-registering attachment which carries the registering lights has been lengthened. An air jet blast clears chips from the cutters.

Fuller Relates Some Technical Experiences

George H. Fuller, former stereotype superintendent of the Cleveland (Ohio) *Press*, spoke briefly about some of the trouble-shooting experiences he had encountered in the past in plants other than his own. His talk was instructive and entertaining. Quite often, it appeared he was "in the middle" with respect to whether a poorly printed paper was caused by the stereotype department, the pressroom, or both.

Speaking panel at ANPA Mechanical Conference Stereotype Session. Seated, left to right: Howard N. King, typographic counsellor, Intertype Corporation; Moderator Leven T. Deputy, production manager, Dallas (Tex.) *News*; George Fuller, recently retired stereotype superintendent, Cleveland *Press*. Standing: John Rausch, production manager, Aurora (Ill.) *Beacon-News*; Glen R. Hutchinson, production manager, Los Angeles *Times* and *Mirror-News*; Robert Dumke, production research coordinator, Milwaukee (Wis.) *Journal*.

Smaller Cities Executives Discuss Mutual Problems

At the Smaller Cities Session of the ANPA Mechanical Conference held at Hotel Morrison, Chicago, Monday night, June 10, there was a good attendance of mechanical executives.

John N. Barron, composing room foreman, La Salle (Ill.) *News-Tribune,* served as discussion leader. The following executives composed the panel to assist in discussing the various topics to be presented from different departments of the plant: Vern Williams, mechanical superintendent, Topeka (Kans.) *Capiltal and State Journal;* Harvey Schieber, mechanical superintendent, Copley Los Angeles (Calif.) *Newspapers;* Paul Roache, engraving superintendent, Evansville (Ind.) *Courier and Press;* Robert Gilmore, stereo superintendent, St. Joseph (Mo.) *Gazette and News-Press;* William Diggle, pressroom superintendent, Kankakee (Ill.) *Journal;* Joe Lawson, pressroom superintendent, Quincy (Mass.) *Patriot-Ledger;* W. Edward Buhrle, circulation manager, Glendale (Calif.) *News-Press;* J. H. Zerbey, III, general manager, Pottsville (Pa.) *Republican.*

J. H. Zerbey was the first speaker. He discussed briefly the business aspects of the newspaper plant. The business office, of course, is responsible for company profits. In fact, everyone concerned with a firm must help make a profit. In our day and age, no one wants to work for less than he is now getting. He urged all the executives to try to devise new ways to help make a profit by adapting new processes or improving old ones. His final observation was: "To get better newspapers we will have to adapt our newspapers to the new processes."

Someone wanted to know: *Are there any new ideas for improving liaison between advertising departments and the composing room?* W. E. Gibbons, production manager of the Portland (Ore.) *Oregon Journal,* stated his paper had received complaints of unsatisfactory advertising reproduction. The suggestion was made that the advertising manager of the firm making the comment be invited to visit the newspaper plant. This advertising manager brought ten of his associates to learn about the intricacies of advertising reproduction. This particular advertising manager didn't know what a mat was. The tour through the *Oregon Journal* plant was strictly of an educational nature. Before leaving, the advertising manager remarked: "You'll never get another mat from us."

There was some discussion about carbide tipped saw blades as used in the newspaper plant. Vern Williams, mechanical superintendent of Topeka (Kans.) *Capital and State Journal* stated that the standard steel blades as well as the carbide tipped 6 in. blades both should be operated at 3600 r.p.m. The saw arbor must be true for both types of blades, especially the carbide tipped blades.

Harvey Schieber related some of the history regarding the development of the carbide tipped saw blade for use in printing plants. He said originally that in order to hold down the cost per blade the manufacturers made coarse tooth blades with about half the number of teeth as is the case with the steel blades. To overcome the chopping effect of the coarse tooth blade the manufacturers recommended that the speed of the saw be increased greatly so as to shorten the cutting interval between each tooth. Increasing the speed of the saw also reduces the size of chips. Schieber suggested concave body for the blade for stereotype work. It seemed to be the consensus that the carbide tipped saw blades last approximately two years without resharpening.

Although the subject has been discussed before at ANPA mechanical conferences, standardization of newspaper column widths came up on the floor during the session. From a national standpoint, standardization is desirable in order to avoid trouble with advertising agencies where plates cannot be made to fit all papers universally. There was also some expression of opinion that instead of continually reducing the column width, newspapers should consider the advisability of going to a wider column with less columns to the page—16 picas was mentioned as a desirable column width. In the matter of reducing column width, one executive stated that in going down to an even 11 pica column there was a 2% annual saving in newsprint.

Gratis Advertising Engraving

There wasn't too much free expression of opinion regarding the furnishing of advertising engraving gratis to advertisers. In one instance, that of the *Christian Science Monitor,* Boston, Burt B. Mader, engraving superintendent, stated his paper makes no rebate for engraving. It is customary to furnish engravings free. He added that in the Boston area there is no yardstick regarding charging for advertising engraving.

A California executive said that something ought to be done about charging commensurately for five and six days work on certain types of drug advertising. These advertisements contain diagonals, circles, and all kinds of inset matter. Someone suggested from the floor that perhaps this type of advertising could be done by photomechanical means—that is, by pasteup and photoengraving. In the case of the California paper, no attempt has been made to charge for the extra time required for this type of composition. It was observed by another executive that changes on store proofs should be charged for at $10 per hr.

More Next Month

Reports of the advertising and engraving sessions held during the ANPA Mechanical Conference in Chicago will appear in the August issue of *Printing Equipment Engineer.*

In answer to a question about some method for cleaning magnesium so that coldtop enamel will not lift off during the etching process, Paul Roache, of the Evansville (Ind.) *Courier and Press,* stated that the best method for preparing magnesium surface to prevent coldtop enamel from lifting off during etching was to swab the plate in a tray containing chromic acid or ammonium bi-chromate solution with a ball of cotton.

During a discussion regarding the cost of operating Acme and Dow machines in one plant, the Acme machine is used only for line work. It was the opinion of one executive that the Acme machine is more expensive regarding the cost of the bath. With respect to the Dow equipment the cost is about half for the etching solution.

In answer to a question regarding

(*Continued on Page* 47)

Imperial Honors Felix—A specially engrossed scroll was presented on June 14 to Howard L. Felix after he had served 35 years on Imperial Type Metal Co.'s sales staff in Southern Ohio, Kentucky and Tennessee.

Marking Felix's retirement from employment, the presentation was made in the conference room of Dayton (O.) Newspapers, Inc. by Clarence Seaman, vice president in charge of sales of Imperial, in the presence of Harry A. Miller, mechanical superintendent and his production executive assistants.

From left to right, identifications are as follows: Elmer Kratzer, Carl Riedmiller, Clarence Seaman, Howard Felix, Harry A. Miller, Edward Reich, Vincent Hanson, and Felix's successor, Roy Kuhns.

Run-of-Paper **Color** *For Daily Newspapers*

General considerations, initial conception, participation by all related departments, equipment requirements and the finished product will be discussed progressively

By VERNON R. SPITALERI*
**Research Director, Knight Newspapers, Inc.*

Part VII—Pressroom (Sec. 3)

Scheduling and Pressroom Planning—The pressroom's first information concerning scheduled color should be via some sort of master color schedule for the plant which shows all color schedules for at least two weeks in advance. Specific color notification should be given the pressroom four to five days prior to running date. The pressroom superintendent can then make preliminary run layouts.

After the color deadline the pressroom superintendent positions color pages to conform with advertising requests where possible, consistent with good quality and economical production. In planning position of color pages, the second impression is preferred where possible. A heavy black solid striking through on a color advertisement can lead to disappointment and should be avoided if possible.

At this point a color press run layout sheet should be prepared similar to that illustrated in Fig. 34. This sheet should carry all information pertinent to the run such as compensator measurements, web leads, presses to be used, sequence and section sizes, running date, color and black page positions, etc. The man in charge of each press can readily plan his makeready operations and much delay and error can be avoided since accurate information is ready at hand concerning proper web leads. It is particularly helpful to have compensator information recorded since on similar runs the compensators can be pre-set thereby saving considerable time and reducing newsprint waste during the makeready operation.

Makeready or Press Preparation

As already indicated, properly preparing a press layout chart similar to that shown in Fig. 34 aids immeasurably in cutting makeready time and reducing ink and newsprint spoilage.

If different units or different colors are called for than on the previous color run, the inking system must be washed up. Most of the ink can be removed using solvents and wiping rags and then running solid plates during the plating and webbing period during which ink from the portable ink fountains with the new color is being fed. Newsprint can be used to simply run off the ink in the system after the ink supply has been cut off but this system produces excessive newsprint waste and can be costly.

An ink skiving blade can be used to remove ink with the unit turning over without paper in the press. The blade scrapes one of the steel vibrators and thus permits cleanup without loss of newsprint.

Developing Casein Plates on Humid Days

(Prepared by Lithographic Technical Foundation for Research Progress Report No. 38.)

Some plants have reported they find it almost impossible to develop casein plates on humid days when they have non-blinding lacquer on them. Here is some information from the Lithographic Technical Foundation about this problem and a suggestion as to how the trouble might be avoided.

On humid days and especially when the temperature is also high, the rate at which dark reaction takes place in all bichromated coatings increases. The coatings harden faster and become more difficult to develop. The lacquer also makes plates a little harder to develop. The combination of these two effects could be enough to prevent complete development.

One answer to this problem given in the past is to pre-etch or use some other pre-treatment before coating. According to LTF, however, the best answer is simply to put a thicker coating on the plate. You can produce thicker coatings with a higher Baume' coating solution, by allowing more rinse water to whirl off the plate before you pour on the coating, by using a slower whirler speed, or combination of these.

You can also get a little more time to work on the plate allowing it to dry in a heated whirler. LTF suggests that you apply the lacquer as soon as you take the plate out of the whirler and while it is still warm. This will retard the penetration of moisture from the air and slow down the dark reaction rate for a while. This is no cure-all but it may give you the few extra minutes you need to avoid trouble in developing.

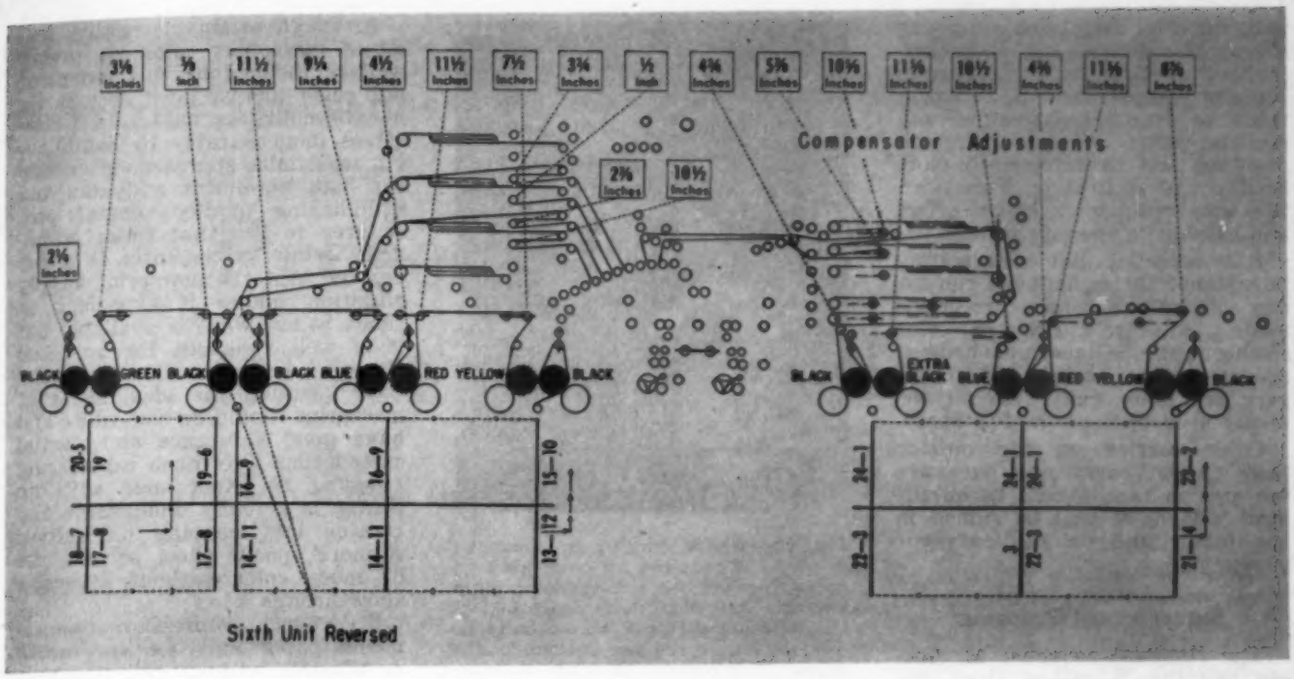


Fig. 34.—The pressroom should receive notification regarding color runs well in advance of printing date. A color press run layout sheet should be prepared similar to that shown in this diagram. This chart should carry all information pertinent to the run such as compensator measurements, web leads, presses to be used, sequence and section sizes, running date, color and black page positions. It is particularly helpful to have compensator information recorded since on similar runs the compensators can be pre-set, thereby saving considerable time and reducing newsprint waste during the makeready operation.

The latter system is shown in operation in the Milwaukee (Wis.) *Journal* pressroom in Fig. 35.

Plating and Registering

We will assume the stereotype department has been careful to mark all process color plates in sets in accordance with the number of casts. The pressmen must be careful to maintain the sets during plating so that, for example, the third yellow cast will be printed with the third red and third blue.

Care should also be exercised to place all plates firmly against either head or tail stop depending on local practice.

If the press plates have been properly pre-registered in the stereotype operation starting with mat register prior to casting (See Part VI, April 1957, *Printing Equipment Engineer*), register problems on the press should be minimized. In fact, if care is exercised to position plates properly and accurately on the press, it is frequently possible to complete final registration by simple means of compensation. Where carding or shimming is required, the *Journal* has developed a magnifying glass (See Fig. 36) which permits the pressmen to accurately determine the number of cards or shims required. The calibrations on this magnifying glass were prepared by the engravers on thin base film and simply mounted on the glass. One-half measure on the calibration scale is equal to 0.005 in. manila, and 0.010 in. red pressboard is used for measures from 1 to 11.

Whenever possible the register proof should be pulled with only the color web in the press. This practice can effect appreciable savings in newsprint.

Good running register control is primarily a function of tension control. With reasonable web leads and effective tension control, such as in some of the later highly sensitive tension systems, once close register is established it should not be difficult to maintain good register throughout the run.

In some installations, particularly those involving excessively long leads, equipment such as Hurletron's circumferential registration control have proved very helpful. This system employs basic feedback principles whereby an indicating mark is read on the moving web. Registration information is transmitted to a hydraulic compensator system which provides practically instantaneous response to correction impulses and, in effect, controls the tension system via compensator control.

Fig. 35.—In the Milwaukee (Wis.) *Journal* pressroom, an ink skiving blade is used to remove ink from the inking system. The press unit is turning over. The blade scrapes one of the steel vibrators without loss of newsprint.

Color Setting and Control

Initial color setting should start

with all color fountains supplying a very thin film of ink. It is preferable to start with light color settings and increase the intensity where necessary. Relative tone values and proper balance of the colors thus can be determined more readily and accurately. This practice also reduces excessive offset and buildup on the pipe rollers.

It is essential that color setting be watched throughout the run for any deviations and corrections made immediately. Principal color setting can be accomplished at speeds approximating 20,000 papers per hour. Only fine adjustments need be made at full speed.

Color carried on the outside page cannot carry any excessive ink and, in fact, should be on the light side or it will be ruined in the folder and on the conveyor wires.

Sequence and Trapping

The standard sequence in process printing is yellow first, followed by red, blue, and where used, black. Although there are occasional deviations from this basic sequence among commercial printers, there should be no deviation in newspaper process color printing. ANPA-AAAA standard inks are so designed to permit proper trapping when run in standard sequence.

The yellow should be the heaviest, or tackiest, and therefore has the greatest affinity for the paper. Each succeeding color should be thinner. If the blue were heavier, for example, instead of being properly trapped by the yellow and red already carried on the paper, the blue would pull off some of the yellow and red thereby degrading the printed result and also the blue color in its own distribution system.

Trapping is, in effect, printing ink over ink. Poor trapping causes excessive blending and degradation of color, and heavily connected dots will in some cases actually print in reverse. This condition results in significant loss of brilliance and frequently shows a mottled effect.

Proper ink formulations and press color settings should result in good trapping which will produce clean, sharp images from the halftone dots of each of the colors involved. Blends will be carried off successfully and brilliance maintained.

Rollers and Blankets

Proper roller setting, particularly of the form rollers, plays a vital role in good color printing. Perhaps one of the most frequent causes for poor newspaper color can be attributed to hard set rollers. A good working range of form roller settings is from 9/16 in. to ½ in. on 6½ in. to 5½ in. form rollers.

Fig. 36.—Where carding or shimming of plates is required for color work on newspaper presses, a magnifying glass like this one which was developed at the Milwaukee (Wis.) *Journal*, may be used to secure register position of the plate. Calibrations on this magnifying glass were prepared by the engravers on thin base film and mounted on the glass. One-half measure on the calibration scale is equal to 0.005 in. manila, and 0.010 in. red pressboard is used for measures from 1 to 11.

Durometer readings of rollers should be made regularly and all rollers taken out for regrinding or recovering when they fall below acceptable working ranges.

The hardest blanket packing available should be used consistent with the dimensional accuracies of the stereotype plates being run. Hard packing permits using full impression which is needed to bring out sharp details and to avoid the soft run-together appearance. This latter condition is often mistaken for too little ink rather than insufficient impression and leads to decidedly muddy color if the remedy is sought in running heavier ink.

Proper Press Packing

In determining proper press packing it is well to consider that good press operation and maintenance of register depend on proper relationships between succeeding impression and plate cylinders to insure uniform web feed from one color cylinder to the next. Since web feed is a function of the surface speed of impression and printing cylinders, the surface speed is a result of the diameter of these cylinders and is therefore dependent on blanket and plate thickness. Variations will cause the web to feed differently from one printing couple to the next. In some pressrooms plate thickness and/or packing is increased progressively from yellow to blue or black to insure constant web tension.

Although attainable quality levels of newspaper color are pretty well established by the newsprint and color inks we must necessarily use, nevertheless, we can help ourselves immeasurably by establishing reasonable standards of quality for both newsprint and inks and establishing quality control procedures to see that those standards are met consistently. It is recognized that the newsprint supply situation makes it expedient at times to use what is available but it is well to shoot for an ideal sheet whenever possible. For good color printing the ideal sheet of newsprint should be blue-white and have good substance and partial calendering. Too much calendering (tending to paper such as Roto News) is actually undesirable and creates ink trapping difficulties. A more opaque sheet permits use of more color without excessive showthrough.

To reduce impression requirements paper must be as smooth as possible without reducing necessary absorption qualities. There is a marked difference in printing quality between the felt (smooth) and wire sides of newsprint and for this reason wherever possible all color should be positioned to run on the smooth side of the web.

Inks

In January 1956 the ANPA-AAAA established much needed standards for both process colors and basic toners for newspaper color printing. Although it is encouraging that we have standards to work toward, a series of tests made recently of inks supplied by a number of manufacturers as ANPA-AAAA standard inks proved there are still significant deviations from the standards. It is hoped that this condition will improve.

The ANPA-AAAA standard inks are higher in both quality and cost than run-of-the-mill color inks, but when considering factors such as increased mileage the relative costs are pretty well in line. In any event, the cost of ink is comparatively minor in the production of newspaper color and good quality inks make a most significant difference in true rendering of color values and in achieving maximum brilliance possible on newsprint.

(In Part VIII will be covered problems concerned with organizing a color program.)

Intertype Vacations

Intertype Corporation will observe a plant and office wide vacation period, July 27 to Aug. 11, inclusive. No regular shipments will be made during the period, but arrangements have been effected to take care of emergencies.

PROPERTIES AND PROCESSING OF

Presensitized Offset Printing Plates

Part II—Light Variables and Development

By AXEL LUNDBYE*

**Consultant, Printing Engineering Div., The Todd Company, Inc., Rochester, N.Y.*

In Part I the exposure times for presensitized plates were discussed. In this connection, it was suggested that the platemaker not lose track of the many variables in the light source.

One of these variables is the color temperature of the light being used. We will consider an arc light. This light is developed by pushing two carbon rods together and forcing an electric current through the carbon rods. If we use d.c. electricity, we heat up only the lower carbon. If we use a.c. electricity, both carbons heat up and become equally bright. The color temperature from the arc lamp is approximately 3600 deg. Kelvin.

Most photolight sensitive coatings are not equally as sensitive to all color wavelengths and albumin or the diazo coating is no exception to this rule. All present light sources have a wide range of wavelength (color). The human eye cannot detect most of these wavelengths (color). We say that the radiation of our light (color) is to be found in three bands or regions:

1. Ultra violet region.
2. Visible region.
3. Infrared region.

Wavelengths are measured in milimicrons. One micron equals 0.000001 of a meter, and a milimicron is 0.001 of a micron, therefore a milimicron equals 0.001 x 0.000001, or 0.000000001 meter. When talking about wavelengths, it is preferred to use centimeters, and as there are 100 cm. in a meter, a milimicron is equal to 0.0000001 centimeter. For brevity in writing, this is written 10^{-7} cm. That is a pretty small fellow. It will take 10 million stacked on top of each other to make 1 cm., and as it takes approximately 2.50 cm. to make 1 in., that means it will take better than 25 million of them to make 1 in.

Diazo Coating Behavior

It was found through experiments that the diazo coating used for offset plates is extremely sensitive to the light waves in the ultraviolet region, and in particular to the region below 270 milimicrons. That is unfortunate, because the glass we use in the vacuum frame in front of the plate to be exposed is a very good filter for the light waves in wavelengths down to 310 milicrons. This is a disadvantage in hardening the diazo coating. The light sensitiveness of the coating decreases very fast for wavelengths at 370 milimicrons to 400 milimicrons and then decreases more slowly to approximately 590 where it is absolutely nothing.

This gives us only a very narrow band of wavelengths that are useful to us for hardening the coating on our plates. The most beneficial wavelengths below 310 milimicrons are nearly all filtered out by the glass on the vacuum frame. We only have left the wavelengths from 310 to 590 milimicrons. Most other light emitted from the carbon is useless for hardening diazo coating, and in the wavelength region from approx. 400 to 590 we don't get much benefit.

Then why do we use this type light and a glass filter on top of the negative and plate? Why not a light that will give us the light wave we need? However, it is not alone the light but the glass cover over our vacuum frame that gives us most of the trouble. What we need is some material as transparent as glass that won't filter out the light waves which are most beneficial for hardening the diazo compound. Plexiglas has been tried. It is less a filter than glass, but the surface of this material is relatively soft and scratches easily.

There is another very bad drawback in the arc light. It does not emit a constant flow of light. It is changing continuously while burning. However, that deficiency has been overcome to a large degree by using a light-integrating meter. Such a meter is placed close to the vacuum frame and it measures, not

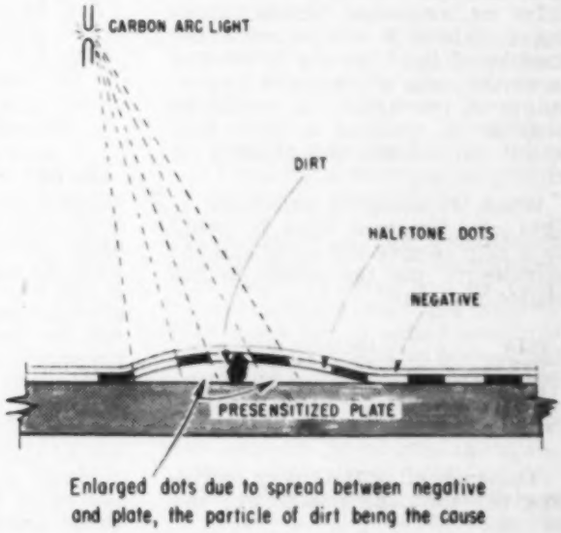

CARBON ARC LIGHT
DIRT
HALFTONE DOTS
NEGATIVE
PRESENSITIZED PLATE
Enlarged dots due to spread between negative and plate, the particle of dirt being the cause

Fig. 2.—Enlarged halftone dots are due to spread between negative and plate, a particle of dirt being the cause.

(Suggestion for diagram courtesy M. M. & Mfg. Co.)

the time the arc light is burning, but the light impulses or, should we say, the total amount of light emitted from the arc.

Wavelength Limits of Arc Lights

However, that is not the entire answer because, as we stated previously, only a small amount of the wavelengths given off by the burning arc is beneficial for exposing our plates and the light integrating meter cannot differentiate between wavelengths as it measures all light impulses. If we have variations in the voltages in the incoming line, we will change the color of the wavelength emitted from the arc. An example will indicate the importance of this statement. As we do not know the formula that can be used for arc lights, but we do have a formula for tungsten lamps, this last formula can be used since the variations for arc lights and tungsten lamps will be more or less equal.

Assuming that we have a 75 w. or 150 w. filament tungsten lamp, and again assuming the color temperature is approximately 2900 deg. Kelvin, then the color temperature of the lamp with the line voltage of 115-12 v. is related to the applied voltage by the equation shown below. The capitals represent normal value. The relationship applies only for the voltage, not far from normal rated voltage:

$$\frac{\text{LINE VOLTAGE}}{\text{Actual voltage}} = \frac{(\text{FILAMENT COLOR TEMPERATURE})^{2.7}}{\text{(actual color temperature)}}$$

From the above it can be seen that a slight change in voltage will change the color temperature considerably. Therefore, on all light sources used for printing offset plates there should be a voltage regulator in the lines. Some people call these voltage stabilizers. The only function they perform is to insure a constant flow of electricity at a constant voltage at all times.

Let us remember that in exposing a plate it is not so much the amount of light we are interested in as the color of the light (wavelength of the light). It would be possible to produce a light that would not harden the albumin at all.

When wavelengths and color of light are discussed here, it would be a help to give the color and the wavelength for the colors in the visible regions:

Violet	400 to 450 milimicrons
Blue	450 to 500 milimicrons
Green	500 to 570 milimicrons
Yellow	570 to 590 milimicrons
Orange	590 to 620 milimicrons
Red	620 to 750 milimicrons

These are all of the colors (wavelengths) that the human eye can detect.

We previously discussed the fact that the diazo coating is not sensitive to any light above the 580 milimicron range. Now we can determine what color of light it will be safe to use in the platemaking department. Referring to the table above, we find that orange and red light would be absolutely safe, and the yellow would be nearly foolproof. For that reason many platemaking departments have installed yellow fluorescent tubes. Bear in mind that we are not always as careful as we should be, so this practice seems to be an excellent idea.

In the past, platemakers have been more than a little careless in their use of daylight. That is definitely a bad fault because daylight contains a very large amount of ultraviolet radiation, actinic light, and many of the wavelength colors will harden the diazo coating in a very short time. Too many plates have been spoiled due to a short exposure to daylight. Therefore, be very careful, as the light might fog the plate before exposure. Just a short exposure of the wrong color of light might make it difficult if not impossible to develop out.

Maintain Constant Vacuum

One more point we must keep in mind when we consider exposure—the one point disregarded by most platemakers. It is important at all times to keep the same amount of vacuum in the frame when exposing a diazo coated plate if we want uniform prints. For that matter, most light sensitive materials act approximately the same way. Therefore, if our vacuum gauge indicates loss of vacuum, check immediately on these possibilities:

1. Improper function of the pump.
2. Loose belt.
3. Leakage in the vacuum line.
4. Leakage in the blanket.
5. Leakage in the gasket.

It has been proved that plates exposed in a mechanical frame require less exposure time than the same plates exposed under vacuum, all other factors being equal. It can be concluded from this that a variation in vacuum has an effect on the exposure time. Furthermore, it was proved that the higher the vacuum the longer an exposure time is required. The vacuum should be kept constant for all plates.

Most presensitized plates are coated on both sides. Coated two sides costs no more than when coated on one side only. As a matter of fact, it probably would cost more to have the plate coated on one side only. If we intend to use both sides of the plate, we must be careful. In general practice it is not too good to use both sides of the plates except when extreme care is exercised both in platemaking and on the press. But assuming we will attempt to use both sides of the plates, there are several methods which can be used. However, the same procedure can be used even though one side of the plate only is to be processed.

Self-Advertising Pays Off — More business through self advertising is exemplified by the Printing Industry of America Printers' and Lithographers' Self-Advertising Exhibition and Awards competition. Here Linda Boram, Pittsburgh Playhouse starlet reminds you to enter the contest which is co-sponsored by the Miller Printing Machinery Co. All entries for the 1957 PIA contest must be submitted no later than Sept. 13, 1957.

Keep the Plate Flat

Let's keep in mind that the presensitized plates are, relatively speaking, very thin, from 0.004 in. to 0.012 in. Such thin sheet metal when put under high vacuum will show embossing from the blanket in the vacuum frame. One method is to place a clean sheet of heavy paper or thin cardboard on the blanket in the frame and then place the plate on top. That will eliminate the embossing of the ridges of the blanket into the second side of the plate and at the same time the second side of the plate is kept clean. If the cardboard is too heavy, we can get into trouble. The question will come up: What is too heavy? That will have to be found out by experience in your own shop. The trouble we can get into is that the cardboard could actually spoil

the contact if the board is too rigid which will cause halation to show up.

Another method is to use an old offset blanket as a substitute for the paper or cardboard. The blanket must be placed, fabric side up, in the vacuum frame. This method seems to give an excellent cushioning effect but will also minimize halations. However, the best method is to use a clean, soft and pliable vacuum frame diaphragm.

Should there be any doubt that we do not have good contact between the negative and the plate in the frame, it is an easy matter to check. Take a pen flashlight, place the flashlight at approx. a 45 deg. angle to project the halftone shadows. If any shadows are present, then we have insufficient vacuum for good contact, because with good contact, only one image will be seen.

Should we have poor to fair contact between the negative and the plate, the reason could be due to insufficient vacuum, poor stripping or several other causes, and we will get undercut as the light waves pass through the negative onto the plate. In that case, if the arc light is moved farther away from the plate, this effect will be minimized.

Let us remember, as stated earlier, if we move the light farther away from the plate, we must increase the exposure time, and when the presensitized plate is developed we should have Step 8 clearly on the Sensitivity Guide.

The varied distance of the light to the plate has very little effect on dot size in a presensitized plate, which is not the case with albumin plates. This is due to the fact that we obtain varying thickness of coating on albumin plates. On presensitized plates, the coating is controlled as to thickness. Therefore, the distance has little or no effect on the dot sizes on this type of plate.

It is good policy when exposing presensitized plates to run the vacuum pump approx. 30 sec. before putting on the light, due to the fact that the presensitized plates have a very smooth surface. It take a little longer to evacuate the last traces of air in the frame. If both sides of the presensitized plates are to be used, it is mandatory to expose both sides before development takes place. The negative used for making presensitized plates, or for that matter any other surface offset printing plates, should have dots with hard center and little or no fringe at the edges. It is considered good practice to place over the negative a clean sheet of acetate from 0.003 in. to 0.004 in. thickness. This sheet will have a tendency to iron out the negative and reduce the differential in thickness of the negative and the masking paper.

Use Acetate Sheet Once

The acetate sheet should only be used once as it becomes loaded with static. Static electricity in the acetate will collect dust particles and the result will be a spotty image on the plate if used more than once. It is nearly impossible to remove dust particles from the surface of acetate, except with radioactive brush. More labor expense will be involved in re-using an acetate sheet than the cost of a new sheet.

When exposing any type of surface offset plate, including the presensitized plate, it is extremely important that dirt and dust be kept minimum. (Fig. 2). Fine dirt or dust on the emulsion side can cause halation. With larger size dust particles on either side of the negative, it is possible to get breaks in the image. We should keep the dust and dirt at an absolute minimum, and keep the opaque or tape adhesive on the negative to a minimum as these buildups of the negative in spots are frequent contributors to halation and broken images on the plate. We know that it is difficult to remove dust particles from any plastic film with static accumulations. In some cases the dust can be removed with a camel's hair brush. However, if the static charge in the film is too large, there are on the market radioactive brushes which effectively remove dust or dirt from even a very highly charged negative.

Developing the Plate

Develop the exposed plates with either gum or acid solution, depending on the manufacturer's recommendations. One of the major manufacturers uses a gum solution and states it is necessary to wipe the gum solution evenly over the entire surface of the plate, using a soft, clean, moist cellulose sponge. It is important that all excess gum be removed only leaving a thin, even film on the entire plate.

The next step is to pour sufficient developer on the plate—enough to cover the entire plate when rubbed down. The amount required is dependent on the size of the plate. The platemaker will soon find out by experience the amount needed. Now rub the developer over the entire area of the plate, using long strokes in several directions. The strokes must be long enough to cover the entire length of the plate. Keep developing until the plate feels dry, then apply some more process gum and continue rubbing with the cellulose sponge till the image comes out clearly.

When rubbing the plate after the second application, use more pressure on the sponge than was used on the first application. This additional pressure will tend to produce a more uniform image and also to minimize the tendency of any of the developer adhering in any defect or scratch in the metal surface of the plate. Should the plate become too dry before development is completed, make additional application of the process gum.

The next step is to wash the plate thoroughly with water, using a cellulose sponge to remove all the excess process gum and developer. At the same time, wash out the sponge used for developing so that it will be clean and ready for the next plate. After removing all the process gum and developer, dry the plate, using a cellulose sponge.

Should it be found that we have a poor bond between the image and the plate or some of the halftones are plugged, the plugged area can be redissolved by using additional developer. Wash the plate thoroughly and redevelop, using a clean sponge. The last step is to gum the plate with an even thickness of gum and wipe dry with a clean lint-free rag. The plate is then ready for the press.

Watch Taboo Items

There are a couple of things with these plates and processes that are taboo. Never use too much process gum and never use a sponge that has been used with gum arabic solution. In both cases we might produce an image that could easily be rubbed off with a slight pressure of the fingers. Also, the use of excessive developer will usually show up in slow development or a weak image.

Manufacturers of the plates just described above do not recommend putting the plate under asphaltum. As a matter of fact they recommend never to use asphaltum with their products. Another major manufacturer of presensitized plates recommended the following procedure for his product:

Applying desensitizer
Applying developing lacquer
Applying plate cleaner

The purpose of the desensitizer is to remove all the unhardened light sensitive diazo coating from the non-printing area and thereby make these areas water receptive and ink repellant. Deposit an ink receptive hard lacquer on the light hardened diazo coating which comprises the printing image areas. The main purpose is to give the diazo coating longer press life.

The plate cleaner is really a plate etching material and the pur-

pose is to remove scumming conditions which are induced through external or other causes.

After the plates are exposed, saturate a piece of clean cotton with the desensitizing fluid and apply sufficient desensitizer in a pool on the plate. It takes approx. 1 fl. oz. for a 17 in. x 22 in. plate. However, a platemaker will soon get the experience so that he will be able to pour the correct amount on any size plate.

Now rub the entire plate area in both directions, paying especial attention to the image area, because it is mandatory that all unexposed diazo compound must be removed in this operation. Applying the developing lacquer, pour a sufficient amount of the lacquer on the same piece of cotton used during the desensitizing operation and work the lacquer over the whole area of the plate with long even strokes without applying pressure before the image is built up to a strong color. The amount of lacquer required is dependent on the area of the image.

Important: The lacquer must not, under any circumstances, be permitted to dry in the nonprinting areas during development. If the plate looks as if it is getting too dry, add a small amount of desensitizer—not too much. The plate must not be too wet.

The next step is to remove the excess desensitizer and lacquer. Flush the entire plate with water, working over the entire plate area with a wad of clean cotton. In the case where we have exposed both sides of the plate and intend to use both sides for printing, swab the first side with wet cotton, turn the plate over and develop the other side, as described above, and then flush both sides of the plate with water. Working both sides with cotton, be sure that all desensitizer and lacquer are removed.

Caution: When both sides of the plate are to be used, great care must be exercised not to injure the one side when the other side is being processed.

Then the plate should be gummed. Do not use 14 deg. Baume gum, only 6 deg. to 8 deg. Baume should be used. To obtain 6 deg. to 8 deg. Baume gum, cut the standard 14 deg. Baume gum with water to the desired density. Rub the gum onto the plate with a circular motion and fan dry. Purpose of this gum is two-fold — to remove, if any is left, the residual desensitizer and lacquer. At the same time it protects the plate from changes in the atmosphere.

The plate is now ready for the press. It is good policy to make the plates 24 hrs. to 48 hrs. before going to press with them. The reason is that we know the diazo compound, after being hardened by exposure to light, continues its hardening process for some time; therefore, we know that the diazo coating only 6 hrs. old will not be as hard in the image as a plate 48 hrs. old.

If the plates are made and will not be used for a week or more, or if the relative humidity is high, then the procedure will be after the plate has been rubbed down with 8 deg. Baume gum smoothly and then fanned dry. Be absolutely sure it is dry, otherwise the pressman will have trouble removing the asphaltum. Apply a thin coating of asphaltum; i.e., an asphaltum that will be easily smoothed out over the plate. This asphaltum should be applied by means of a clean, lint-free rag. The asphaltum should be applied in a thin, even coat and the excess should be wiped off and the surface fanned dry. Now the plate is well protected against any atmosphere and can if necessary be stored for months without any harm.

(*To Be Continued*)

Five Craftsmen Enter Race

Five candidates have announced intentions of seeking office as a governor of the Intl. Assoc. of Printing House Craftsmen in what is expected to be a hotly disputed election held during the association's convention, Buffalo, Aug. 4-7.

The Association this year will elect three governors from Craftsmen districts not represented on the association's board. A president, vice president and treasurer will also be elected at the convention, but it is expected the only contests will be for governors.

Robert M. Edgar has assumed nation-wide popularity in the last two years as chairman of Intl. Printing Week. He is the Fifth District's candidate and holds the position of president, Neyhart Printing Co., Pittsburgh. He has served the Pittsburgh Craftsmen's Club in many capacities, including president. He is also a director of Printing Industry of Pittsburgh.

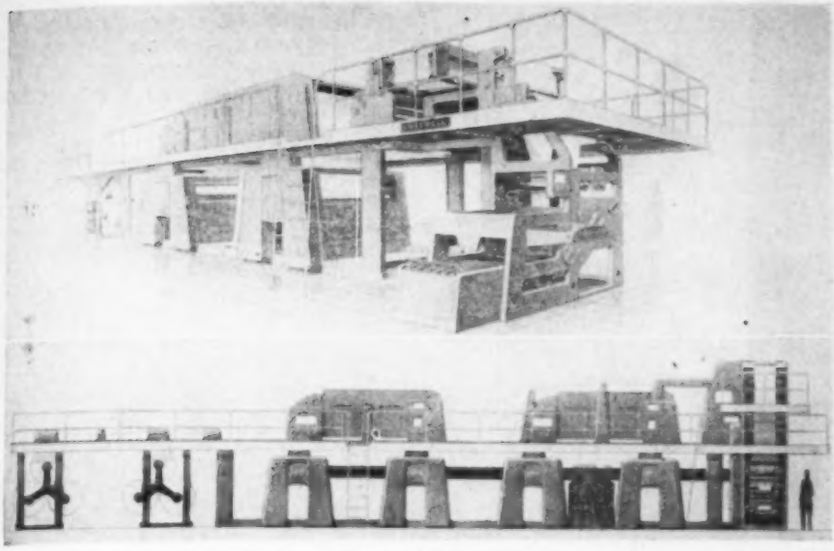
Harry M. Faunce, well-liked New England Craftsman, will carry the First District's hopes of representation into the election. In his 40 year career, he worked as a tramp printer, foreman, superintendent and is now sales engineer in Boston for The Rumford Press. He is a past president of the Boston Club of Printing House Craftsmen.

Harry C. Link, with some 40 years experience in the printing industry, has been unanimously endorsed as candidate of the Fourth District. He is owner of a Philadelphia printing plant doing business under his own name. He has been active in the Philadelphia Craftsmen's Club since 1929 and this year completes a term as president. He has been associated with Curtis Publishing Co. and Edward Stern & Co., Philadelphia firms; and Judd & Detweiler and Government Printing Office, Washington.

Alfred T. Peters is perhaps best known as the cool headed, quick thinking parliamentarian who has settled disputes arising in past Intl. Craftsmen elections. He is the chairman of the association's constitution and by-laws committee and will be the Second District's candidate. He is vice president and sales manager, Thos. C. Peters Printing Co., Inc., Utica, N. Y., the company with which he has been associated for 39 years. He is a past president of the Utica Craftsmen's Club and served his district three times as Intl. representative.

At press time it was learned that **J. Ernest Ducharme,** St. Paul, Minn., will be the candidate from the 14th District. He formerly served as Intl. representative of his district and is a past president of the St. Paul Craftsmen's Club.

EDGAR FAUNCE LINK PETERS



At top is the new Cottrell 32 page web letterpress for short-run magazine printing, with the new standard Cottrell jaw folder. Below is the firm's 64 page web letterpress designed for the same type of operation.

Short-run Magazine Presses

Development of a press specifically designed for trade magazines and relatively short-run work has been announced by The Cottrell Company. Certain features of the high-speed, custom-built Cottrell machines are available in this standard model press.

The new press, a double two-color—printing two colors on each side of a web—is available in both 32 and 64 page models. Web width is 50 in., with 34½ in. cut-off. Web speed is claimed to be up to 750 f.p.m.

The press is offered as a complete package including reels, pasters, and Offen driers. Printing units are located at floor level, so that plate cylinders, impression cylinder and distributions are serviced from the floor. Offen driers are located above the printing units, away from the working area, and are reached from the platforming around the press.

An automatic plate cylinder throw-off mechanism is designed to prevent plate batter in the event of a web break. It can also be used to throw the cylinders off impression when running a paste through, and in pulling color proofs to insure color register.

The 64 page model consists of four two-color printing units, inking two colors on each side of two webs. The Cottrell jaw folder, furnished with this press, is two pages wide with turning bars for eight ribbons, four from each main web. A wide range of paging can be produced, says Cottrell, from 64 page to four page signatures, in many combinations, and with two colors on every page, if desired.

On the 32 page press, one web runs a single three-arm reel through two printing units. This press is equipped with a two-page-wide collect jaw folder, delivering 8⅝ in. by 12½ in. untrimmed signatures in 16 and 32 pages. This folder has been designed with provisions for optional mechanisms to produce the following: (1) Tabloid products 12½ in. by 17¼ in. with a single folder in signatures of four or eight pages. (2) Closed head chopper folded products 6¼ in. by 8⅝ in. in signatures of 32 pages. (3) Parallel folder products, 4 5/16 in. by 12½ in. (two-on) in signatures of 32 pages.

For further information, please circle No. 273 on the Reader Service Card.

Non-Met Session

(Continued from Page 39)

the breakoff point in high speed etching of magnesium and zinc, one executive stated that ten flats a day insures profitable investment and operation.

Reasonable deadlines for double truck, market or food ads came up for discussion. Vern Williams stated that his plant tries to maintain a two day deadline for such compositions. Leland E. Smith, production manager, Pine Bluff (Ark.) *Commercial*, stated his problem is how to get ad proofs back before the 36 hr. grace period has elapsed. Leo J. Carle, mechanical superintendent of the Elyria (O.) *Chronicle Telegram*, stated it is the custom of his paper to require copy to be sent into the plant 72 hrs. before publication. No proofs are sent to the advertiser. If he wants to see a proof he comes to the plant.

Mortising Shell Cast Stereos

Methods for mortising shell cast stereos came up for discussion. One executive stated that inasmuch as the router bit is slightly tapered for clearance, the shell cast is cut out and the shell cast mortise hole is routed all the way through the plate, then the plate is turned over and rounted from the back side so as to obtain as nearly square side walls within the hole as possible. Leo J. Carle stated his sterotype department feels faster production is obtained with the Carlson shell plate finisher.

Jack Innis, stereotype superintendent, Indianapolis (Ind.) *Star News*, stated the quickest way to provide for key numbers in ads is to rout just part way through the shell cast, then strip the slug to 0.065 in. height. This is then inserted in the routed out depression in the shell cast with Scotch tape of the double face variety. To set the router bit for a limit of the down stroke, a piece of 0.850 in. base is kept on the router table. In order to provide the proper 0.068 in. depth of hole for the mortised in key number the piece of base is placed under the router bit and the down stroke of the bit is set before commencing the routing operation. Innis stated this method of furnishing key numbers for plates is faster than routing clear through an 11 pt. plate.

The subject of the best way to obtain cooperation of the newsroom in furnishing specific types of copy properly identified to permit the madeup pages to go to the stereotypers on time each day came up for discussion. One suggestion was the colored plastic clothes pins such as are obtained at any of the variety stores be used—different color for each society, food, and sports pages. Another suggestion was that a different color copy paper be used for each kind of copy.

Challenge Acquires Mayville Equipment

The Challenge Machinery Co. announces acquisition of the Mayville Metal Products Co. line of Graphic Arts equipment. Starting July 1, this line will be sold through Challenge's regular Graphic Arts equipment dealers. J. Wesley Lee, executive vice president and general manager of Challenge, stated the entire Mayville line, including galley cabinets, offset filing cabinets, vertical stock racks and Black Beauty galleys will be manufactured and sold exclusively under the Challenge name.

In Full Mat Pak Production

Three more metropolitan newspapers have been announced as having gone into full production with Kimberly-Clark Corporation's automatic stereotype matrix backing, Mat Pak.

Fig. 1.—The steering roller as employed in Hurletron printing press web weave control.

Printing Press Web Weave Control

The Electric Eye Equipment Co. has developed a new concept in practically absolute control of lateral movement of webs in high speed printing presses. This new development has been incorporated in the Hurletron automatic color register control system for the magazine, newspaper, and boxboard printing industries, as well as electronic controls for the paper making industry.

The Hurletron Edge Guide is said to be an extremely fast-acting web weave control. The system is capable of detecting and controlling such wide excursions as $\pm\frac{1}{2}$ in. variation from a predetermined guide point, even when these excursions occur at extremely high frequency.

In order to accomplish the desired results, it is obvious that a means must be provided to positively move the web when signals are received from the electronic scanning device.

This has been accomplished by means of a steering roller (Fig. 1). The steering roller consists of a statically and dynamically balanced pipe roll which is supported by a yoke and is pivoted around a point in the center of the web, and in the same plane as the incoming web as shown in Fig. 2.

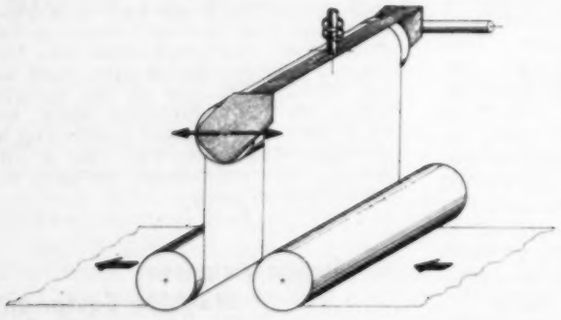


Fig. 2.—The yoke supports the steering roller which is pivoted around a point in the center of the web and in the same plane as the incoming web.

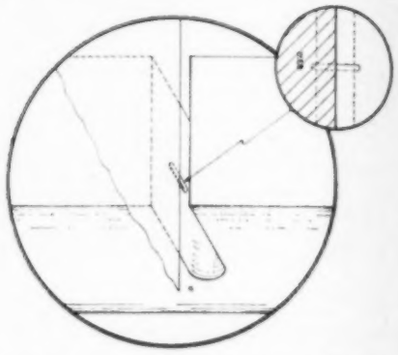


Fig. 3.—An optical slit is provided in the web scanner through which light is transmitted from a light source to an optical system and thence to a phototube.

A scanning device is placed approx. 36 in. after the steering roller to scan the edge of the web. Usually, the edge of the web is controlled to a given point down one side of the press. In some instances, it may be desirable to maintain the center line of the web down the center line of the press. Under such circumstances, two scanners are provided, one on each side of the web. If the web being controlled varies in width, but maintains proper centerline guide, equal signals will be received by the two scanners and will cancel each other. If, however, unequal

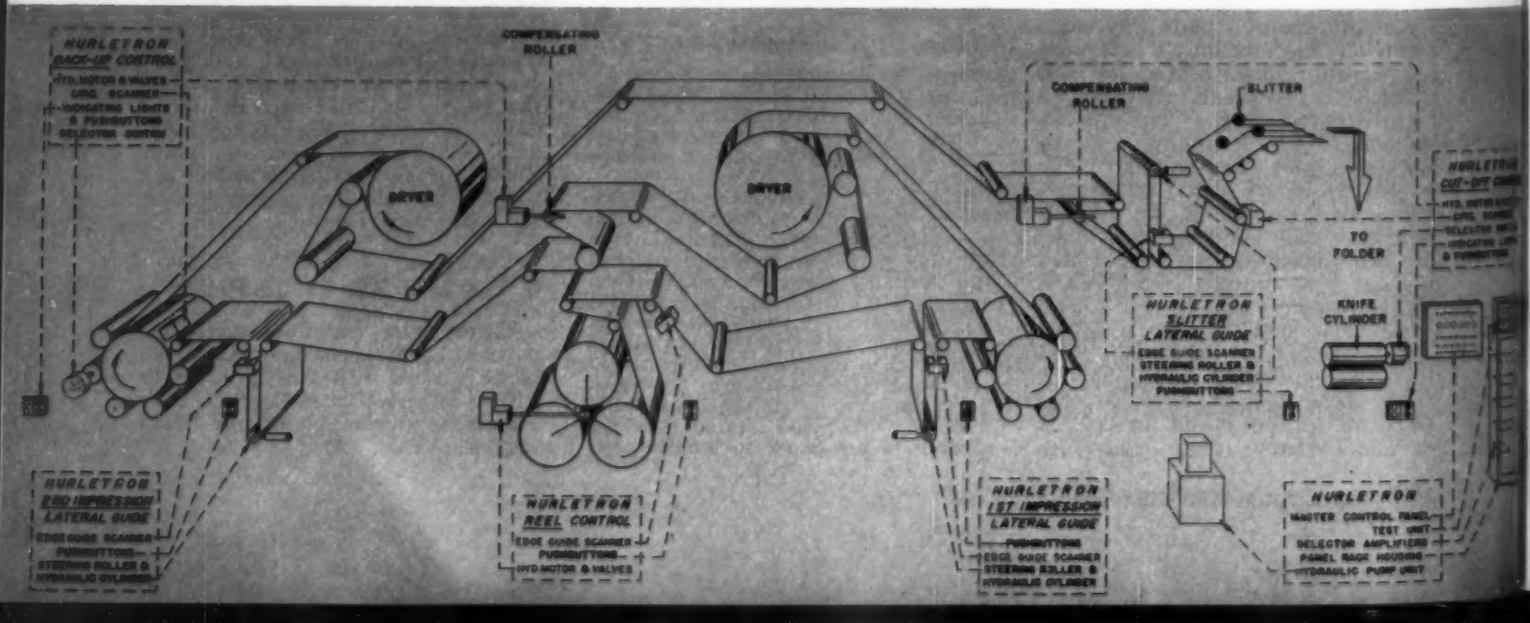


Fig. 4.—Diagram below is representative of the complete Hurletron web aligner control installed on a magazine four and four rotary letterpress color printing press. All of the essential components are shown. The action is from reel to slitter equipment in this instance. Steering rollers are shown under both printing units and the slitters.

signals are received, compensation is introduced in the steering roller in the proper magnitude to restore the center line of the web to the center of the press.

In the Hurletron Edge Guide, transmitted rather than reflected light, is utilized to measure the position of the web. An optical slit is provided in the scanner through which light is transmitted from a light source to an optical system and thence to a phototube as in Fig. 3. The amount of light falling on the phototube is governed by movement of the web over the optical slit, thereby allowing varying amplitudes of current to be received by the amplifier which is the control brain.

In addition to measuring the position of the web, the Hurletron system measures the rate at which the web is moving. This combination of measuring deviations and the rate at which they occur, is then analyzed and appropriate movement on the steering roller is introduced.

Proper positioning of the steering roller is accomplished by metering hydraulic fluid through an extremely precise electro-hydraulic valve to a hydraulic piston. This piston imparts mechanical movement to the steering roller. Means have been provided to allow manual positioning of the steering roller by use of remote pushbuttons located at the master control panel.

In a typical application on a major magazine publisher's presses, the Hurletron Web Guide increased production by 26%; saved up to 60% on printed waste; reduced backbone and lap deviation by 75% on a former board folder. The complete Hurletron system of web control is shown in Fig. 4. Circle No. 272 on Reader Service Card.

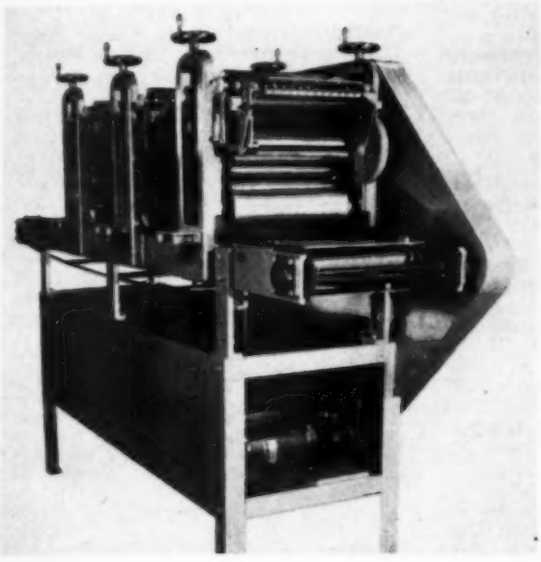


Fig. 1—In this picture is shown the Cosomatic multi-color, multi-level printer. Prints letterpress or offset on flat, round or irregular shaped objects, production or short run, in one, two, three or more colors.

Press Prints Odd Shaped Objects

A printing press (Fig. 1) with unusual versatility has been announced by Cosom Engineering Corp. Called the Cosomatic Printer, the press prints on three different levels simultaneously in one, two, three or more colors. The Cosomatic Printer prints letterpress or offset on objects paper thin or up to 5 in. thick, 12 in. wide and 18 in. long. Current uses include: Package printing, parts identification and labeling. Plastic, metal, wood, glass or paper items may be printed. Shapes may be round, recessed, concave, convex or flat. Many of the items now being printed by the Cosomatic unit were formerly handled using the silk screen method, hot stamping or applied labels or decals. Production runs on some items, it is claimed, are handled at speeds up to 8000 pieces per hr.

A special rotary attachment permits printing on circular objects. Recessed surfaces can be printed successfully.

The press is driven by variable speed transmission which is connected by chain drive to the conveyor which travels under the printing towers. The conveyor consists of ⅛ in. thick flat aluminum platens attached at each end to the conveyor chains. Directly below each printing tower is a roller which supports the platen at the printing point. The chains ride on hardened steel ways on each side of the press frame to maintain the platens in alignment with the printing rolls. The platens are usually spaced 18 in. apart which corresponds to the circumference of the type on the printing roll. The printing tower cylinders are driven by a chain drive directly from the chain conveyor drive shaft.

When printing flat objects, fixtures hold the item, and in the case of thin items, support the printing surface. The fixtures are mounted on the platens. The rubber printing dies are cemented to the bottom cylinder in each tower. The objects are printed as the platens pass under the towers.

When printing round items, an attachment is mounted at the end of the press in which is carried a shaft mounted on ball bearings. This assembly is adjustable vertically so heights can be adjusted to conform to different diameter objects and can also be tilted so tapered objects can be printed.

In rotary printing, fixtures to hold the parts are mounted on the shaft of the rotary attachment. For direct printing, the rubber dies (plates) are mounted flat on the platens. These dies pick up various colored inks as they pass under the towers and roll the inked image onto the round objects as they pass through the rotary attachment. Rubber pads are placed on the bottom roller of each tower to transfer the ink onto the rubber dies. In case of multiple colors, these rubber pads are cut to shape so that each color is applied only to the part of the die that is printing that color. Round objects can also be printed by putting the dies on the bottom roller of the tower and using offset pads on the platens.

Objects up to 18 in. circum. can be printed completely around. Larger objects can be printed where the label is no larger than 18 in. length.

There are two types of rotary attachments for the Cosomatic press. One is a simple attachment (Fig. 2) with a single spindle which is used for short runs and where frequent changes in the size of parts occur.

Due to the large variety of items which can be printed, no standard feeders are made. The usual practice is to hand feed the parts onto the fixtures. Where large volume printing will justify the expenditure, special feeders can be built for the press. As an example, automatic feeders have been made for feeding and unloading plastic container lids. Circle No. 264 on Reader Service Card.

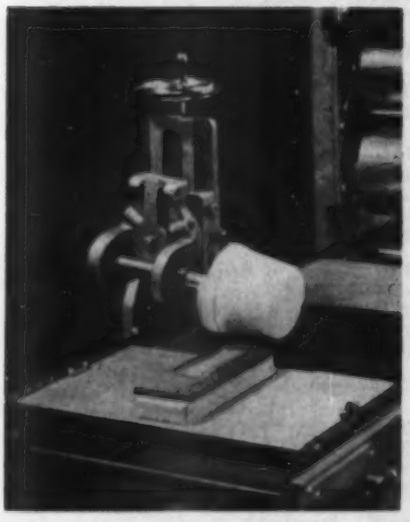


Fig. 2—Attachment for printing circular objects with the Cosomatic printing press. Not shown in Fig. 1 but is a part of the press. Cups, tumblers, pens, etc., may be printed using this attachment. Fixture is adjustable to bring surface to be printed in alignment with inked rubber plates.

Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc. — 1957 Conv., Bellevue-Stratford Hotel, Philadelphia, Oct. 14-16. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1958 Conf. Chalfonte-Haddon Hall, Atlantic City, N. J., June 23-25. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1957 Conv., Mount Washington Hotel, Bretton Woods, N. H., Sept. 23-25. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. Gen. Mgr. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf. — Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—1957 Meeting, Chicago, Ill., tentative dates Oct. 12-13. Secy.-Treas. Charles P. Hackett, Memphis Printing Industries, 215 Hickman Bldg., Memphis, Tenn.

Gravure Technical Assoc. — 1958 Conv., Hotel Commodore, New York, N. Y., Feb. 26-28. Exec. Secy. Edward S. St. John. Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1958 Conf., Hotel Claypool, Indianapolis, Ind., Jan. 12-14. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf.—1957 Conf., Hotel Faust, Rockford, Ill., Sept. 28-29. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News.*

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., American Hotel, Bal Harbour, Fla., Oct. 21-24. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-7. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—1957 Conv., Rochester Institute of Technology, Rochester, N. Y., July 28-Aug. 2. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N. W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-5. Secy. Francis J. Tominey, *New England Printer & Lithographer,* 470 Atlantic Ave., Boston 10, Mass.

Intl. Typographic Composition Assoc. — 1957 Conv., Hotel President, Kansas City, Mo., Sept. 18-21. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1957 Conf., Town House Hotel, Kansas City, Kans., Sept. 7-8. Kansas Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1958 Conv., Arizona-Biltmore Hotel, Phoenix, Ariz., Apr. 28-May 1. Exec. Div. W. Floyd Maxwell, 381 Fourth Ave., New York 16, N. Y.

Mid-Atlantic Newspaper Mechanical Conf. — 1958 Conf., Penn-Sheraton Hotel, Pittsburgh, March 13-15. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—Exec. Secy. Eugene Hanson, 4440 Bessie St., St. Louis 15, Mo.

National Assoc. of Photo-Lithographers—1957 Conv., Chase-Park Plaza Hotel, St. Louis, Mo., Sept. 11-14. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1957 Meeting, Conrad Hilton Hotel, Chicago, Sept. 16-18. Secy. J. H. Londergan, 220 E. 42nd St., New York 17, N. Y.

National Printing Equipment Assoc., Inc.—1957 Conf., Hotel Morrison, Chicago, Oct. 15-16. Secy. James E. Bennet, 140 Nassau St., New York 38.

National Safety Council Printing and Publishing Section—1957 Conf., Conrad Hilton Hotel, Chicago, Oct. 23-24. Staff Rep. Arthur Siedlecki, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — 1957 Conf. Ellis Hotel and Winding Brook Motel, Keene, N.H. May 18-19. Secy, Lewis R. Greene, Westerly (R.I.) *Sun.*

New England Newspaper Mechancal Conf.—1957 Conv., Hotel Statler, Boston, Mass., Oct. 19-20. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union.*

Northwest Mechanical Conf. — 1958 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 22-24. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1957 Conf., Multnomah Hotel, Portland, Ore., Aug. 23-25. Secy. Donald Newhouse, Prod. Mgr., The Portland (Ore.) *Oregonian.*

Packaging Institute Assoc. — 1957 Forum, Hotel Statler, New York, N. Y., Oct. 28-30. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1957 Annual Conv., Morrison Hotel, Chicago, Ill., Oct. 14-18. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N W., Washington 15, D. C.

Research and Engineering Council—1958 meeting, Edgewater Beach Hotel, Chicago, May 14-16. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave. N.W., Washington 15, D.C.

ROP Color Conf.—1957 Conf., Sheraton Hotel, Chicago, Sept. 23-25. Secy. H. J. Prag, Room 520, 333 N. Michigan Ave., Chicago 1.

SNPA (Western Div.) Mechanical Conf.—Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc.—Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Screen Process Printing Assoc., Intl.—1957 Conf., Sheraton-Cadillac Hotel, Detroit Mich., Oct. 26-28. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1957 Conf., Dinkler Tutwiler Hotel, Birmingham, Ala., Aug. 18-20. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

Technical Assoc. of the Graphic Arts—1958 Conv., Beverly-Hilton Hotel, Los Angeles, June 23-26. Secy.-Treas. B. L. Sites, Miehle Printing Press & Mfg. Co., 2011 W. Hastings St., Chicago 8.

Colwell Expansion—Colwell Litho Products, Inc., Minneapolis, Minn., has acquired 5000 sq. ft. of additional manufacturing space at 316 Chicago Ave. General offices and the assembling and manufacturing of certain products will remain at the firm's present address, according to Tom Colwell, general manager.

Equipment Sales and Installations Reports

Mergenthaler Installations

Three Teletypesetter-equipped Comets have been installed in the composing room of Baltimore (Md.) Sunpapers for use with local perforation. These three Blue Streak Comets will augment the present 35 machine news battery. In addition, two Rangemaster Model 35s and one Rangemaster Model 33 Linotype make up a revamped headletter battery. All six machines are equipped with pushbutton Hydraquadders which are also to be installed on some of the existing machines used for advertising composition.

The Clarence (Mo.) *Courier* is now appearing with its body type set in 9 pt. Linotype Corona. C. R. Byland, publisher of the weekly newspaper, said the conversion was made to give subscribers the benefit of better legibility. Column width is 12 picas.

Equipment and Supplies

(Continued from Page 16)

end to permit easy removal of sheets without stopping the press. Circle No. 7-252 on Reader Service Card.

Completes Type Series

Bauer Alphabets, Inc. announces that the casting of the 10 pt. and 12 pt. sizes of Fortune Extrabold has

12 Pt. Fortune Extrabold

abcdefghijklmnopq
rstuvwxyz
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
1234567890

been completed and is carried in stock. The typographer now has available the complete size range in the entire series. Circle No. 7-259 on Reader Service Card.

Automatic Electric Stapler

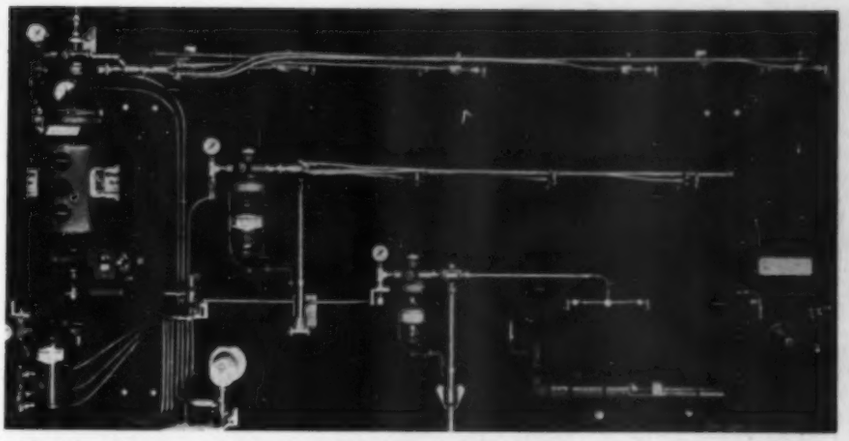
An automatic electric stapling unit, called Staplex, is reported by the Staplex Company to drive staples as fast as the work is fed to it. The machine works on a perfected solenoid principle. Work is inserted and the stapling mechanism is activated

by the pressure of the object. Standard size staples are used. The machine is available in the following colors: Suntan, Mist Green, Dust Blue, Marine Gray, Coraltone (pink) and Black. Circle No. 7-251 on Reader Service Card.

New Cutting Rule Steel

A cutting rule steel which, it is claimed, combines hardness and ductility is now available from Athenia Steel Div., National-Standard Co. The steel is used for making dies with sharp angles or intricate shapes for cutting paper, plastic, canvas, leather and similar materials. Hardness, ranging from C36 to C 50 depending upon ductility desired, makes possible a durable cutting edge. Ductility permits bending over radii of 0.025 in. to 0.125 in., depending upon hardness specified.

The cutting rule steel is available in any length and in widths ranging from ¾ in to 1½ in. and thickness from 0.028 in. to 0.042 in. Other sizes available. Circle No. 7-261 on Reader Service Card.



Offset Dry Spray Unit—Adaptable to any type and size press is a dry spray unit for offset prevention manufactured by Ortman-McCain Co. According to the manufacturer, the unit can be adjusted in a short time and is automatic. It is air operated and has no moving parts. The unit is said to reduce reject sheet waste, present cleaner impressions with finger-tip setting for control. For further information, please circle No. 274 on the Reader Service Card.

Improved Feed Roller

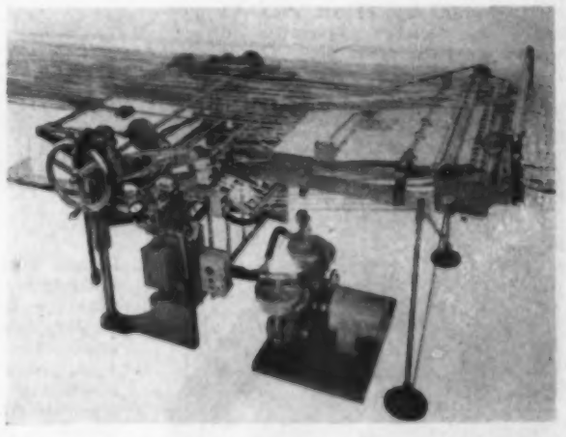
An improved rubber feed roller, which makes possible the collation of paper stock of nearly all weights and finishes, from tissue, onionskin and one-time carbon to ⅛ in. cardboard, has been developed by Thomas Collators Inc. The new roller, measuring 1¼ in. circum. and molded with 150 staggered raised tips, is being incorporated as standard equipment on all models of Thomas' complete line of manually operated and electric powered collators. Circle No. 7-257 on Reader Service Card.

Safety Solvent for Cleaning

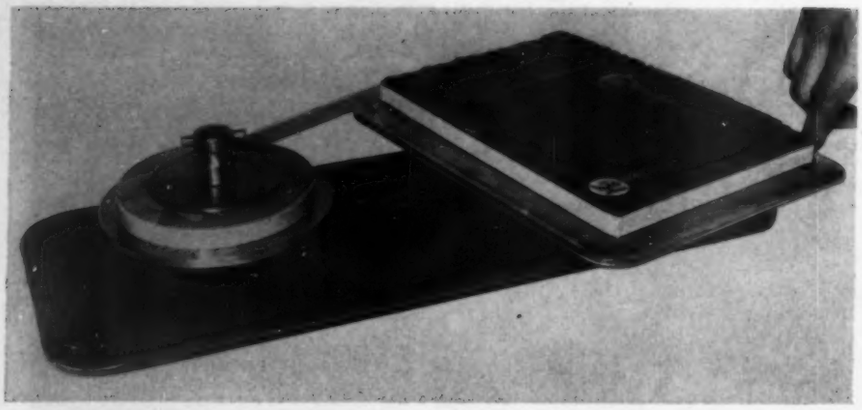
National Disinfectant Co.'s new safety solvent SS-25 is announced as a safe replacement for many toxic solvents since it is approx. 25 times safer than carbon tetrachloride. SS-25 has no flash at the boiling point. It is used for cleaning and degreasing electric motors, machinery and equipment. Following claims are made: SS-25 leaves no odor, is non-corrosive, leaves no residue, and is safe for human skin. SS-25 is packaged in 55 gal. and 35 gal. steel containers. Circle No. 7-254 on Reader Service Card.

JONES

Oliver C. Jones, production engineer with the Atlanta Agency of the Mergenthaler Linotype Co., now represents the company in the territory consisting of Virginia and portions of West Virginia. In 1950 he became production manager for the Albany (N.Y.) Div. of the Hearst Corporation where he remained until rejoining Mergenthaler Linotype Co. this year.



The improved Hickok Combination Pile Inserter, it is announced, makes possible automatically inserting paper, blotters or board between any desired number of sheets of paper from a minimum of 4 up to 125 or more. The changeover from handling lightest Manila paper to chipboard is accomplished by pushing a button. No mechanical changes are necessary. For inserting the paper, suction is used. For inserting board or blotters, which frequently have uneven or warped surfaces, a rubber push finger is used. The Hickok Combination Inserter is available with suction, or push finger attachment. Circle No. 7-262 on Reader Service Card.



H&M Type Taping Device

One of the interesting new developments is the H&M Type Taping Machine. The device is used for taping type composition such as pages, advertisements, tickets, labels, sorts and the like so that the composition may be easily handled for proofing, make-up and/or storage. Can be used for all composition.

As will be seen in the accompanying illustration, the device consists of a base 8 in. by 20 in. On the base are mounted the acetate adhesive tape reel and the type turntable both of which are rotatable. The tape is wound tautly around the type composition and provides a rigid support. The revolving type table measures 9 in. by 12 in. Overall height of the device is 3½ in.

When corrections are to be made, the tape is slit with a knife. After the corrections have been made a short length of tape is applied as a patch to cover the joint.

The taped pages or form elements can be inserted in the form without removal of the tape. Stored type pages, says sponsor, remain intact indefinitely.

The H&M Type Taping Machine was developed by Raymond MacGregor, foreman of a prominent Eastern book composition house. For further information, please circle No. 275 on Reader Service Card.

Heavy Duty Ink Mixer

Over 30 lbs. of printing ink can be mixed in the 20 qt. bowl, states Read Standard Div., Capitol Products Corp., which is standard equipment on the three-speed Readco ink mixer. Agitator is attached by a safety snap spring and lock collar, which prevents jamming of the bowl or breaking of the paddle. A self-

locking lever raises or lowers the bowl, and the bowl saddle can be swung to one side for inspection of the mix. Mixer is driven by a fully-enclosed ⅓ h.p. motor. Speeds of 109, 191 and 352 r.p.m. are selected by lever control. The mixer stands 29¾ in. high; requires a floor or bench space of 17 in. by 27½ in. Circle No. 7-269 on Reader Service Card.

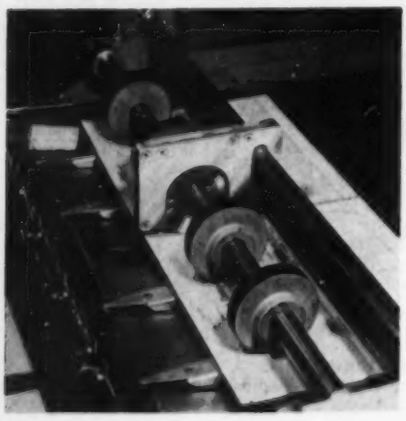
If you can not find where it is made, write *Printing Equipment Engineer*. Information will be sent back promptly.

Industrial Air Compressor

Joy Manufacturing Co. has introduced a new industrial air compressor in the 350 h.p. to 1000 h.p. range. The unit, labelled the WN-224, has an output at 80 to 125 p.s.i.g. which is rated from 2418 to 6048 cu. ft. per min., depending on motor horsepower. For further information, please circle No. 276 on the Reader Service Card.

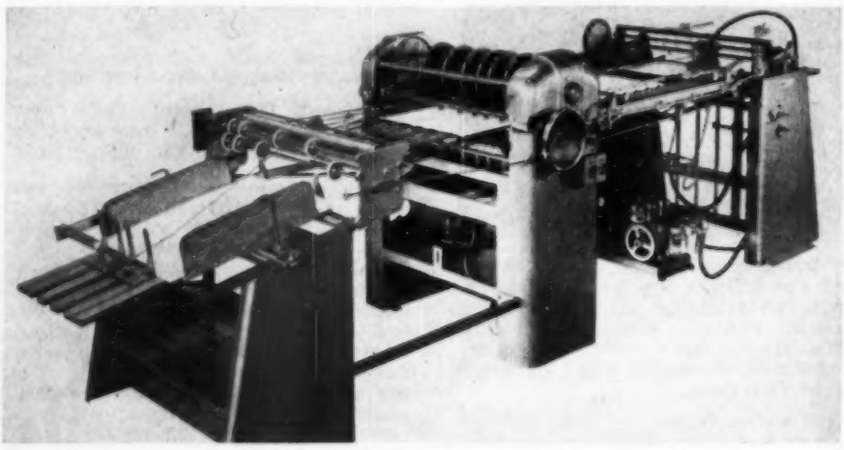
Slitters for Collating Machine

Development of a new slitter that can be attached to any Speed-Klect collator has been announced by Didde-Glaser, Inc. The new slitter allows work to be slit to size as it comes off the delivery belt of the collator. Company officials claim test runs of 200,000 sets of material were run on the Speed-Klect collator and slit at the rate of over 8000 8½ in. by 11 in. cut-offs per hr. The slitter operates on a rotary cutting principle. Circle No. 7-271 on Reader Service Card.



Lithographic Developer

A new Premium lithographic developer, introduced by Clayton Chemical Co., is recommended for the processing of all types of litho film. Described as an extremely high energy developer, sponsor claims it has a low fog level resulting in high quality negatives for both halftones and line work. It is also said to have a slow rate of oxidation. Circle No. 7-255 on Reader Service Card.



Round Hole Rotary Perforator—F. P. Rosback Co. recently announced its automatic feed round hole rotary perforator with speeds from 95 ft. up to a max. of 200 ft. per min. Standard equipment included is an automatic pile feeder, round hole rotary perforator and automatic layboy jogger. Minimum sheet size is 8 in. by 8 in., maximum size is 30 in. by 30 in. The feeder is equipped with electric motor for air pump, ¾ h.p., 115 v., 60 cy., single ph. a.c. Elevating feed table holds pile of stock 24 in. high. Vacuum and pressure controls and start and stop switches are in front of the operator. A double pump is installed for the vacuum and blast system. The machine will perforate 1 to 18 lines of perforation at the same time in any combination of skip or strike. For further information, please circle No. 277 on the Reader Service Card.

Men Who Produce..

Part of The Philadelphia Inquirer's battery of 15 newly engineered Model 31 Linotypes

If you're a publisher, editor, mechanical superintendent or composing room foreman, production is your problem. The newly engineered Model 31 Linotype is the machine to solve that problem.

It cruises at 10 lines per minute; that eats up copy.

Carrying up to four magazines, it puts more type faces on your keyboard; that eats up copy.

Manually or off tape, it operates faster and smoother. This versatility keeps the hook clean.

Its four 90-channel magazines carry faces up to 30-point condensed. This range means more production off a single keyboard.

There's a place and a need for the newly engineered Model 31 Linotype in *your* composing room. Ask your Linotype Production Engineer about it.

Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, N.Y.

Set in Linotype Corona and Spartan families

• LINOTYPE •

Agencies: Atlanta, Boston, Chicago, Cleveland, Dallas, Los Angeles, New York, San Francisco. **In Canada:** Canadian Linotype, Limited, Toronto, Ontario

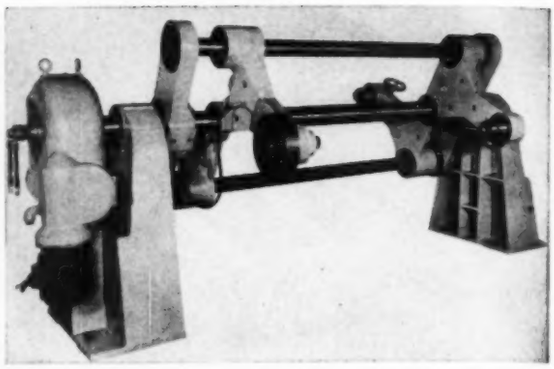
LEADERSHIP THROUGH RESEARCH

For More Information Circle 116 on Reader Service Card

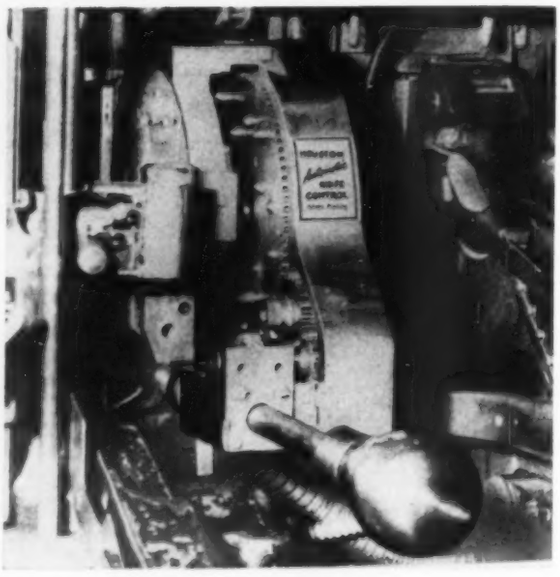
Contact Masking Reproducer

A self-contained darkroom unit designed for contact reproduction of highlight, color correction masks, color separation negatives, positive masking, drop out, flash in and composed negatives and positives, has been developed by Jos. Gelb Co. The reproducer, which is equipped with its own vacuum system, features pinpoint light source, voltage control, three-stage light intensity, automatic electric reset interval timer, variable vacuum pressure control, and seven position filter wheel operated by remote panel control. Locking the cover automatically activates vacuum; unlocking cover automatically releases vacuum pressure. A three-point Eastman pin bar and chase are designed for accurate registration. The chase is available in sizes up to 20 in. by 24 in. Circle No. 7-267 on Reader Service Card.

Rotating Unwind—A continuous, shaftless rotating unwind, Model 42-100, is offered by Black-Clawson Co., Dilts Div. The stand is made for continuous operation on paper and board on operations such as coating, saturating, laminating and corrugating. Principal feature of the machine is that different roll widths can be run successfully without stopping the process for setups. Each set of arms may be independently adjusted for roll widths either by manually moving the arms (shown in the illustration) or by a power screw attachment. Rolls up to 50 in. diameter by 100 in. face can be accommodated. Circle No. 7-266 on Reader Service Card.



Automatic Knife Control—The Houston Automatic Knife Control may be applied to six mold Intertype machines. In the near future, it will be available for all Intertypes and finally for Linotype machines. Houston Automatic Knife Control (with cover removed) as applied to an Intertype is shown in accompanying illustration. The device functions to position the side trimming knife to proper point size when the operator changes a mold; also, the automatic ejector is changed with mold selection and knife setting when the operator changes from one mold to another.



In operation, the right hand knife opens fully between each mold selection as the mold disk is rotated and closes automatically to the correct setting as each mold is turned to "up" or normal position.

In the case the operator is casting slugs with overhanging display figures or words, the operating handle is pulled back slightly and turned to the left a half turn or less depending upon point size of the overhang.

On the operator's side of the control casing (not shown in the illustration) there is a small dial so the operator can tell which mold is in normal position.

No special mold arrangement is necessary. Range of the control device is from 4 pt. to 42 pt. regardless of mold pocket arrangement.

In applying the Houston Automatic Knife Control, the existing standard knife block is not removed. The mold selecting pinion operating shaft and bearing are removed—these being incorporated in the Control. The knife block operating screw and block detent bracket are then removed. Next, the knife block disk is removed and replaced with an activating cam and parallel stud bushing which are inserted in the existing knife block with the paralleling stud shoes engaging the existing standard knife paralleling screws. The gear in which are mounted the pairs of knife positioning studs may also be seen in the illustration. Thus the upper and lower parts of the right hand trimming knife bear against an upper and lower stud in each point size setting under spring pressure.

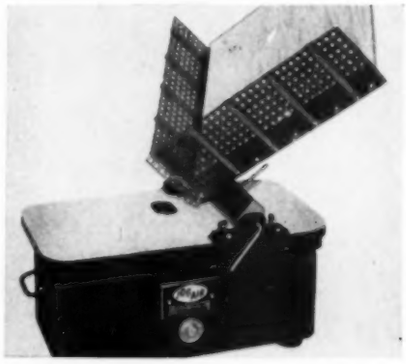
The Knife Control is then clamped over the existing knife block and the knife adjusting screws in the carriage gear set and locked to point and parallel size to correspond with the point size of each mold. With the cover for the Control case in position the inward mechanism is protected from sawdust, fine metallic particles and the like. Circle No. 7-263 on Reader Service Card.

Attachment for Paper Jogger

An attachment has been developed by Harvey Engraving Co. that converts its Jog Air paper jogger from a flat to an angle-top jogger. An optional accessory permits its further use as a vertical jogger. The new unit will fit all previous models of the Jog Air.

Proper placement of the 17 in. by 17 in. slanting surface over the air hole in the table top permits the pulsating air blast to sift through the holes in the perforated sides of the angle bin. Insertion of a 17 in. by 22 in. cardboard permits jogging of sheets that size.

Vertical support bars located on the perforated angle attachment can be removed and relocated to amplify or



diminish vibration for different jobs. Vibration and air control are further variable by means of a rheostat. Harvey has also designed an air diffuser baffle that spreads the air blast in two directions. Circle No. 7-250 on Reader Service Card.

BBD Appointment—Bensing Bros. and Deeney recently announced appointment of Robert H. Bensing as eastern sales manager for the flexographic printing ink division. Also announced was that John B. Plunkett is now assistant eastern sales manager and director of purchasing.

PATENTS

For The GRAPHIC ARTS

Covering patents issued April 2, 9, 16, 23 and 30.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

PHOTOCOMPOSING APPARATUS

This magnetically controlled coding mechanism is related to U.S. patent No. 2,664,986. It provides more precise character placement, using a novel means for lining up type for projection, and a plurality of lens systems selectively movable to focus each character in projection position upon a sensitized sheet within an optical axis. Patent 2,787,199 by Rene A. Higonnet and Louis M. Moyroud, assigned to Graphic Arts Research Foundation, Inc.

PHOTOGRAPHIC COMPOSING PRINTED MATTER

Characters in negative can be projected quickly and easily in desired sequence by this simplified system. A table containing a vertical shaft rotates a drum on which negatives are mounted. A light source is contained in the drum and a film exposure station is situated outside to receive images of the characters on the negative. Printed matter using large numbers of different characters, such as Chinese and other languages, is ably photographed by this apparatus. Patent 2,787,200 by Chung-Shu Kwei.

STRIP PRINTING MECHANISM

For successively printing display symbols on a strip of photo paper, as required in lithography, screen printing, ad writing, etc., this mechanism comprises a light tight box with lamp and exposure opening at the top. The photo strip is drawn past a movable shutter section. Patent 2,787,201 by Roy B. Young.

ELECTRONIC PHOTOTYPECOMPOSING SYSTEM

With this system, the process of photochemical plate preparation, the operations of setting the type, the making of proof copy and the photographing of the same are eliminated. The system is useable in the communication field and for addressing large quantities of envelopes from a mailing list. Patent 2,787,654 by Walter E. Peery.

OPTICAL COMPOSING MACHINE

Optically produced patterns are reproduced on a film sheet or directly on a carrier for relief printing, gravure printing and offset printing. Letters of different size can be obtained from the same original pattern by optical enlargement or reduction. Patent 2,788,721 by Werner Kniehahn.

TAPE CONTROL FOR LINECASTING MACHINES

Reference is made to U.S. patent No. 2,704,595, a line casting machine using this tape control. This typesetter closes circuits selectively in accordance with the analysis of perforations on a code tape. This allows last minute changes on data to be set up for fast publication in newspapers, etc. Patent 2,788,886 by Herbert L. Paulding and Richard T. Yu, assigned to Dow Jones & Co., Inc.

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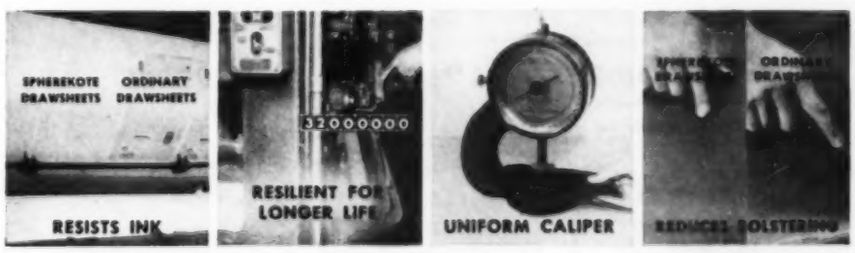

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PHOTOCOMPOSING MACHINE

The machine has a keyboard of the type used on electric typewriters and several fonts of type which can be readily interchanged. Set type can be read as composed and corrections made, both as readily and as easily as with a typewriter. Patent 2,790,362 by Rene Higonnet and Louis Moyroud, assigned to Graphic Arts Research Foundation, Inc.

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Platemaking:

PHOTOGRAPHIC COLOR REPRODUCTION PROCESS

Light-sensitive polymeric materials are provided for use in making superimposed subtractively colored relief images. The support is transparent and carries a layer of light-sensitive organic solvent-soluble polyvinyl cinnamate subtractively colored with a spirit soluble dye. Patent 2,787,543 by Alexander Murray and Earl M. Robertson, assigned to Eastman Kodak Co.

LIGHT-SENSITIVE ELEMENTS FOR PHOTO-MECHANICAL PROCESSES

The photographic elements comprise a support carrying a layer of a polyvinyl acetal containing recurring vinyl acetal units. The polymers can be developed with water or aqueous solvent mixtures in contrast to known lithographic processes. Patent 2,787,546 by Albert C. Smith, Jr., Donald A. Smith, and Cornelius C. Unruh, assigned to Eastman Kodak Co.

STEREOTYPE PLATE CASTING MACHINE

A safety stop device is incorporated in the machine to prevent a second charge of metal being pumped from the pot into the closed mould during the machine cycle. Release of the stop is effected by the movable mould when it is moved from its closed position to open the mould at the end of the casting operation. Patent 2,788,553 by Walter Harris, assigned to Linotype and Machinery, Ltd.

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write

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DEVICE FOR ALIGNING PRINTING PLATES

With this protractor, the angles between type forms, plates, engravings, etc., can be quickly and accurately determined. A pair of independently slidable or movable slides uses a flexible cord for locating various objects or lines on a work surface. Patent 2,788,584 by Henri F. Adrien.

ADJUSTING LENS MEANS FOR CAMERAS

This combination lens can be used either as a non-reversing or as a reversing lens in a camera such as a straight line camera used in photomechanical processes for making printing plates. The reversing or non-reversing action can be effected without removing the lens barrel from the lens board of the camera. Patent 2,788,709 by William C. Huebner.

PHOTOGRAVURE AND SIMILAR PRINTING

Positives employed for reproduction may be individually exposed and the gravure done on separate, flat and flexible plates without regard to density or contrast of the positive. A cylinder with magnetic surface attracts the plates, which are of a magnetically sensitive alloy, making it unnecessary to engrave the entire surface of the cylinder. Patent 2,788,743 by Andre K. Schwerin.

DEEP-ETCHING PRINTING PLATES

With this apparatus, printing plates are prepared by placing a photographic negative of the image to be reproduced in contact with a light-sensitive etchant resistant coating on a plate and imparting a parallel motion between the plate and negative along a closed curve while subjecting plate to the action of light. Patent 2,789,491 by Bjarne E. Blandhoel and Knut M. Iversen, assigned to A/S Cliche.

PROCESS OF MAKING A PRINTING MEMBER

A cylindrical curved printing member is made by this process. A thin, reinforced flexible printing plate of thermoset plastic with a sheet of heat sensitive adhesive bonded to the back side is contacted with a mass of molten backing metal while the plate is held in place by suction. It is used in letterpress and carried out on stereotype equipment. Patent 2,789,500 by Frank E. Reilly, assigned to Electrographic Corporation.

CAMERA FOR PRODUCING SCREEN POSITIVES

This camera for preparing intaglio printing plates is of the type disclosed in U.S. patent 2,596,115. It provides improved camera screen and stop arrangements which give higher grade dot-sized, dot-depth screen positives with less need of skilled workers. Patent 2,789,905 by Lucien C. Austin.

XEROGRAPHIC CHARGING DEVICE

This corona discharge electrode control effects selective positive or negative charging of a xerographic plate, by means of a mechanical switching device controlled by a power supply with a double output. The device is compact, low in cost, and provides maximum operator safety with less maintenance. Patent 2,790,082 by Robert W. Gundlach, assigned to The Haloid Company.

STYLUS INDEXING FOR ENGRAVING

This invention is particularly adapted to the automatic engraving machine of U.S. patent No. 2,575,546. It uses an electric gauge to determine correct relationship between tip of

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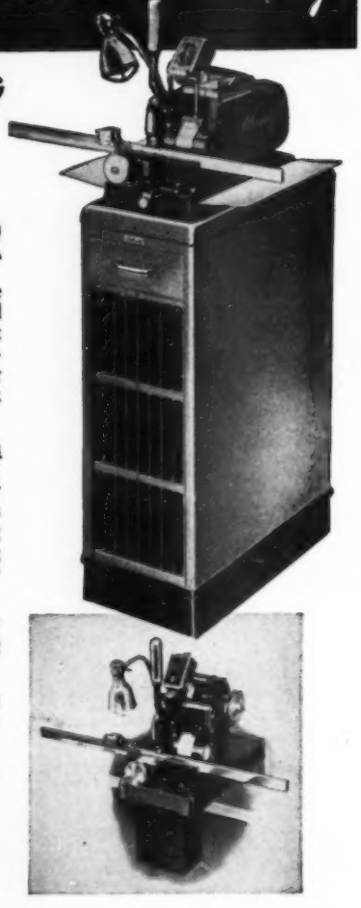

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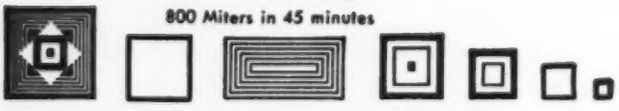

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MITERING MACHINES
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COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

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the stylus and the datum plane defined by movement of the advance shoe when moved to contact a sheet to be engraved. Patent 2,788,255 by Monroe Farber, assigned to Fairchild Camera and Instrument Corp.

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Miscellaneous:

FORMING AND FEEDING APPARATUS FOR WIRE TYING

In baling stacks or bundles of paper, this apparatus reduces a round wire drawn from a coil to a flattened state while at the same time it straightens and feeds the wire in its interrupted movement in a wire-tying operation. It effects considerable wire saving. Patent 2,789,495 by Thomas R. Sykes, assigned to The Toronto Star, Ltd.

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Feeding, Folding, Delivery:

HIGH SPEED PRINTING PRESS FEEDING MEANS

The press includes a pair of printing rollers, a feeding table including a horizontally moving chain, a rack for supporting envelopes or other matter to be printed and a high speed vacuum feeder. The guides and rails for handling the envelopes and the feeder are adjustable to handle work of various sizes. Patent 2,787,214 by John Halahan, Theodore F. Aronson and Floyd A. Lyon, assigned to Halm Industries Co., Inc.

HANDLING OF SHEET-LIKE ARTICLES

Newspapers, as they leave the press in folded condition, are inverted to present either the folded or trimmed edge to a counter. Adjustments may be made to accommodate various thicknesses, flexibility and sizes of units to be counted. Patent 2,787,363 by Frederic E. Howdle, assigned to Cutler-Hammer, Inc.

STACK FEEDER MACHINE

The feeder is of the type which feeds individual sheets of paper to receiving table to form a stack thereon. The stack is automatically lowered when a predetermined number of sheets are fed to the top. The jogging action is synchronized with the mechanism for lowering the stack. Patent 2,788,131 by Carl J. Bergstrom and Carlton Tolsdorf, assigned to Dellenbarger Machine Co., Inc.

AUTOMATIC LIFT SEPARATING AND FEEDING MECHANISM

The object here is to provide a simple, efficient mechanism for separating and feeding out "lifts" from the foot of a stack of sheets. A novel hold back clamp arrangement holds the material above the separated bottom lift and effects smooth feeding of the lift. A division of U.S. patent No. 2,641,321. Patent 2,788,156 by Charles C. Cruzan, assigned to Wire-O-Corporation.

MACHINE FOR PRODUCING MULTIPLE PRINTED FORMS

Printed webs and carbon webs are fed in alternate superimposed relation through tiers of perforating, printing, gluing, shearing, etc., steps, emerging as complete packets. A single pressure unit supplies print power to the several tier printing units. Patent 2,788,208 by Lewis C. Pearce, assigned to Pearce Development Co.

COLLATING MACHINE

The improvements described include a rotary carrier having four shafts on each of which are mounted two platforms. Separate stacks of small sheets are placed on each platform or a single stack of large sheets placed on both platforms. The mounting of blower nozzles and suction feet on the same rocker frame insures proper positioning of these parts and avoids complexities in function and structure. Patent 2,790,637 by Harry H. Waller.

Printing Presses:

SHEET FEEDING FOR HECTROGRAPHIC MACHINES

Object here is to provide for a machine employing direct damping of copy sheets by a damping pad. A novel sheet feeder is positioned at the delivery end of a feed tray for the copy sheets and is intermittently driven from the printing drum. The automatic feed can be decoupled without loss of time, to adapt for manual feed. Patent 2,787,211 by Roland Brown, assigned to Block & Anderson, Ltd.

SOLVENT OPERATED DUPLICATING MACHINE

It is possible to reproduce one or several selected lines of a transfer sheet onto a blank sheet by this idea. The blank sheet to be printed is wetted and pressed against the printing or transfer sheet carrying roller only on portions of the blank sheet that are to receive printed matter. Patent 2,787,212 by Marcel L. A. Delplanque, assigned to Ormig-Organisations-Mittel G.m.b.H.

DAMPENER FOR OFFSET LITHOGRAPHIC PRINTING

The dampener surface of this roll is much less costly than the molleton surface now in use. The water-receptive surface is composed of a thin, non-woven cellulose fiber sheet mounted on a base cylinder. It is reinforced by a substance imparting wet strength. Patent 2,787,213 by Bruce W. Hubbard, assigned to Ideal Roller and Mfg. Co.

INKING MECHANISM

For twin cylinder duplicating machines, the pump provides for delivering ink automatically in accordance with the requirements of a particular stencil. The pump is of the type covered by patent No. 2,575,870. Patent 2,787,216 by Albert G. R. Gates, assigned to Gestetner, Ltd.

3
QUALITY ZINCS

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If we could see etchers everywhere at work we would find many using one Imperial zinc, some two, and some even three, depending upon the character of their work. They choose Imperial zincs for dependable uniformity, resistance to buckling, elimination of dirty bottoms and clean cut sharp engravings. Mr. Etcher, give the Imperial representative an opportunity to tell you about the three Imperial zincs.

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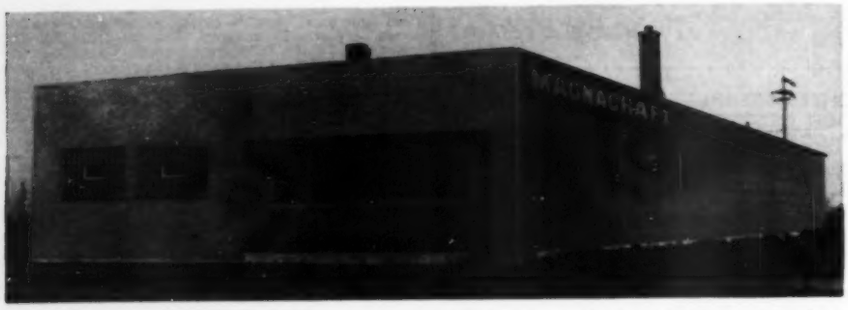

Modern Headquarters for Magnacraft—The Magnacraft Manufacturing Co. has announced occupancy of its new plant at 7739 S. Kedzie Ave., Chicago, where all manufacturing is done. The plant was constructed with a flexible floor arrangement, with production routines linked in succession from start to finish.

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Canadian Representative, R. M. Lousen & Co., Ltd.,
Kennedy Road, Agincourt, Ontario

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WEB WINDING MACHINE

A plastic web can be continuously wound and guided at high speed with minimum tendency toward undesirable pressure conditions throughout the roll. Mechanism, including a knife for severing web and a guide, effects transfer of an advancing web from a full roll to a new core. Patent 2,787,427 by John A. Marczincsin, assigned to The Black-Clawson Co.

WEB TENSION CONTROL MECHANISM

Web tension is controlled without any variable "take-up" in the web such as is required in conventional tension control devices. This feature is of great importance when the control is used between two printing units or between a printing unit and a cutting cylinder. Patent 2,787,463 by William F. Huck, assigned to Huck Company.

HIGH-SPEED PRINTER APPARATUS

The printer is of the type having a drum carrying on its periphery various letters, numbers and other symbols to be printed. The type is secured to the drum as axially extending columns. Magnetic marks are carried opposite each column to indicate when a particular letter is opposite the printing position. Patent 2,787,952 by Curtis H. Roche.

SUPPLYING INK TO INKING ROLLERS

For use with rotary printing presses, this ink feeder eliminates a ductor and avoids all contact between the ink-transfer rollers and the fountain roller. The ink is applied by means of a brush. Patent 2,787,955 by George R. Brodie, assigned to Fred'k H. Levey Co., Inc.

PLATE CYLINDER MOUNTING OR DEMOUNTING

This printing cylinder is readily removable from the mandrel of a printing press without damaging the cylinder or mandrel. It can be replaced with accuracy. This is accomplished by making the end closures of magnesium and furnishing a heater by which the ends may be shrink fitted or released. Patent 2,787,956 by John F. Kirby and William H. Thys, assigned to Mosstype Roller Co., Inc.

WORK HANDLING APPARATUS

Wet prints discharged from a screen printer are suspended vertically on a conveyor which is co-ordinated with the cycle of the printing machine at all times. The distance traveled by prints in drying is reduced. Patent 2,788,210 by Paul A. Sperry.

MAKING-READY MACHINES

This machine is adapted for cooperation with rotary letterpress machines. The arrangement in the making-ready machine is an exact reproduction of that of the plate cylinder operating in the press to permit rapid exchange of a cylinder, the stress being the same as in the press. Patent 2,790,384 by Georg Kaldschmidt, assigned to VEB Druckmaschinenwerk Victoria, VVB Polygraph.

PRINTING PRESS FOR PRINTING NEWSPAPERS

With this press, a newspaper or magazine may be produced on a single web of paper by printing thereon a plurality of pages in succession, rather than to provide a plurality of perfecting units. The press also provides for cutting the web into sheets and folding the sheets into signatures. Patent 2,788,738 by Robert W. Wood.

INTERRUPTING MEANS IN BED AND PLATEN PRESSES

This press for printing engraved stationery has an automatic stopping mechanism which actuates the same shifter handle commonly used with manually actuated clutch and brake equipment. Sheet feeding is stopped simultaneously with stoppage of the press. Patent 2,788,739 by Edmund A. Gillis, assigned to The Cronite Co., Inc.

PRINTING PRESS ACCESSORY

In an inking mechanism for use with rotary printing presses where ink is transferred from fountain roller to distributing roller by means of a ductor roller, adjustment of contact between the three rollers can be made readily and accurately without disturbing the relationship of any of the rollers. Patent 2,788,741 by Anton R. Stobb, assigned to Fred'k H. Levey Co., Inc.

INK TRIP FOR OFFSET PRESSES

This automatic ink trip may be applied to existing presses. It avoids the oversupply of ink on the plate cylinder which results when a press is tripped by disconnecting the link from the lift lever between ductor roll and plate cylinder. Patent 2,788,742 by Charles A. French.

ROTARY PERFECTING PRINTING PRESSES

In a first impression and counter-impression sheet rotation printing press, the plate cylinders are readily accessible. There is a special arrangement of the inking mechanism which permits the inclusion of wiping cylinders underneath the printing cylinder. The press requires very little floor space. Patent 2,789,499 by Paul Dietrich, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

FLATBED AND CYLINDER PRINTING PRESS

The press is of the reciprocable bed and two revolution cylinder type and incorporates new cylinder structure, a new cylinder drive, and new cylinder raising and lowering mechanism. Patent 2,790,383 by William G. Montgomery and Samuel A. Huffman, entire interest assigned to said Montgomery.

CYLINDER MOUNTING FOR ROTARY PRESSES

The printing mechanism as well as the delivery devices of a rotary sheet printing press for letterpress work are each separately driven from the main shaft. Thus the main driving members may be of lighter construction and steady running of the press is insured. Patent 2,790,385 by Georg Kaldschmidt, assigned to VEB Druckmaschinenwerk Victoria, VVB Polygraph.

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Dye Treatment Developed For Plastic Scribing Sheets

Air Force development of a novel dyeing treatment which changes the original color of coated plastic scribing sheets used by photographers, lithographers, and cartographers to any color or to opaque is described in a report available for industry use.

The process, called Convert-a-Cote, provides for adjustment to photomechanical reproduction processes by changing the initial color of a scribe coating to any color or shade or to opacity to suit particular scribing conditions. The plastic sheets can be treated before or after scribing.

Among other advantages of Convert-a-Cote, described as "potentially revolutionary" in the report, is the elimination of over-exposure burn and the need for a glass-topped tracing table. Original engraving can be traced directly in a white coating. Vinylite and other plastics are not affected by the dye.

Included are the formula and technique for producing opaque black. The volume, PB 121729 *The Convert-a-Cote Dye Treatment for Producing Opacity in Scribing Coatings,* Aeronautical Chart and Information Center, U. S. Air Force, Feb. 1955, may be ordered from OTS, U. S. Dept. of Commerce, Washington 25, D. C. It contains six pages; price, 50 cents.

PIA Contest Deadline Nears

Closing date for entries in the 1957 Printing Industry of America Printers and Lithographers' Self-Advertising Exhibition and Awards is Sept. 13, it has been announced by Miller Printing Machinery Co., co-sponsor with PIA of the activity. All self-advertising material produced by printers during the period Sept. 28, 1956 to Sept. 13, 1957, may be entered. Membership in PIA is not a requirement. The contest includes categories for individual ad specimens and ad campaigns. Winners will be announced at the PIA Convention, Chicago, Oct. 15-18. Entry blanks and rules may be obtained from Printing Industry of America, 5728 Connecticut Ave., N.W., Washington, D.C., or Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.

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So, if one man loses one minute an hour waiting to use a saw trimmer, or walking too far to use it, or correcting mistakes from a saw that is inaccurate, this means 8 minutes lost in an 8 hour day, or 80¢ lost per man in labor costs. If you have 10 compositors, you may lose up to $8.00 a day. And this will buy a new Morrison Saw Trimmer in about 90 days!

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For 10 Compositors	$8.00
Savings in 90 days	$720.00
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News ITEMS

Ideal Appointments—Ideal Roller & Mfg. Co. has made the following sales appointments. Robert Thompson has been added to the sales staff of the firm's Long Island City, N.Y., plant. A. F. Shaw replaces J. J. Aylmer in the New England area. Chester W. Schumann has been added to the sales staff of Ideal's Milwaukee office.

THOMPSON SHAW SCHUMANN

Forms New Graphic Arts Group—Dick Burdge, Burdge Engraving Co., has been elected president of the newly-formed Steel Die & Copper Plate Engravers Group of Printing Industries Assoc. of Los Angeles, Inc. Others elected were: Albert E. Coffey, jr., Albert E. Coffey Co., vice president; and Van Allen, T.V. Allen Co., treasurer. Committees on program, trade practices, production and new techniques, advertising and apprenticeship will be part of the organizational structure.

J. Francis Coughlin, 64, composing room superintendent, Holyoke (Mass.) *Transcript-Telegram,* died at Holyoke, May 20. He had been with the Holyoke newspaper for 36 years.

Howard Carroll, owner of Carroll Photoengraving Service, San Diego, Calif., was elected to two new posts. One is as president of the Advertising and Sales Club of San Diego and the other is as first vice president of the Southern California Photoengravers Assoc.

Joseph W. Addison, 84, pressroom superintendent, Hartford (Conn.) *Times,* from 1934-48, died recently in Tampa, Fla., where he had been living since his retirement. During his career, which began in 1892, he was associated with 54 newspapers.

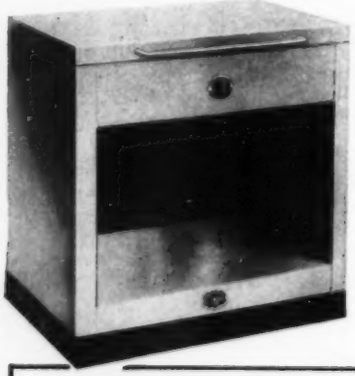
Shaw Heads Western Litho—Elected president of Western Lithograph, Los Angeles subsidiary company of Brown & Bigelow, was John Shaw. Shaw joined the firm in 1954 as vice president and director of sales. Also named was Charles Stowell as controller.

National Publishing Co., Washington, D.C., has announced three top management appointments. James A. MacMartin, Massachusetts Institute of Technology graduate, has been named assistant to Vice Pres. and General Mgr. Leslie C. Shomo. Robert E. Bauerlein, a graduate of Carnegie Institute's School of Printing Management, was appointed as aide to Secy.-Treas. Richard M. Nash. John Tancill, also a Carnegie graduate, was named assistant to Plant Mgr. Joseph A. Cangalosi.

MacMARTIN BAUERLEIN TANCILL

NOLAN *Time Saving* **MAT DRYER**

Assures . . . **FLAT, DRY MATS FOR BEST CASTS**



The Nolan full page mat dryer prepares mats easier and more efficiently. Drying area 23¼" x 29½". Equipped with interval timer, pilot light, thermostat heat control and cover supports for pre-shrinking. Operates on 110 or 220 volts.

KEEP ROLLIN' BUY NOLAN

6 COLUMN MODEL
Drying area 14" x 24" with thermostat, pilot light, perforated cover. 110 or 220 volts.

NOLAN Corporation Dept. 727
Rome, New York

For More Information Circle 132 on Reader Service Card

SPEED PRODUCTION WITH RICHARDS'

SAWS • ROUTERS • MORTISERS

Stereotype Saws Three Sizes

Curved Plate Routers Tubular or Semi

Flat Plate Routers Three Sizes

Plate Mortisers Bench or Pedestal Models

Special Routers Built To Order

J. A. RICHARDS COMPANY
903 N. PITCHER STREET • KALAMAZOO, MICHIGAN

For More Information Circle 150 on Reader Service Card

Ralph Millington Now General Manager—Thornton Hall, president of Wood Flong Corp., has announced appointment of Ralph B. Millington as general manager of the corporation. Millington has previously been general plant manager. He came to the Wood Flong Corp. in 1945 in the capacity of development engineer. He is a graduate of Northeastern University, 1934, having received a B.S. degree in chemical engineering. He is a member of several professional associations, including the Technical Assoc. of the Paper and Pulp Industry, the American Chemical Soc., and the American Soc. for Quality Control.

C. A. Brattstrom, a vice president of Sun Chemical Corp., died on May 30 at his home, 17 Rock Ridge Dr., Port Chester, N.Y., after a prolonged illness. He was 58 years old. Surviving are his wife, Kathryn, and two daughters.

Sales Representative—The appointment of David Brandmark as a District Sales Representative for the General Printing Ink Co., Div. of Sun Chemical Corp., has been announced. Brandmark will work out of the main office in Long Island City, N.Y., covering accounts in the metropolitan New York and greater New Jersey areas.

New York and Penn Headquarters—Peter S. Paine, president of New York & Pennsylvania Co. announced completion of the company's move to new offices located at 425 Park Ave., New York, N. Y. Company will occupy the entire 17th floor of the new 31 story building.

SAVAGE

Savage Promoted—Ira J. Lipson, vice president and general manager, Heidelberg Eastern Inc., has announced appointment of William J. Savage as Columbus (O.) division manager. He succeeds James D. McCann, who recently was promoted to general sales manager.

PP-RK Appointments—Edward Blank has been named to the position of assistant to the president, Publishers Printing-Rogers Kellogg Corp., Long Island City, N. Y., according to an announcement by Sampson R. Field, president of the firm. Edgar L. Budden was appointed plant manager, the post formerly held by Blank. Budden rejoins PP-RK after an association with Blanchard Press, New York, N. Y. Blank's responsibilities in his new job will include customer relations, technical counsel, and direction of new methods and equipment.

Pintard-Leyland Co., sales agent and distributor of ink, ink equipment and supplies for newspapers, has opened new headquarters at 214 Main St., Hackensack, N. J. Millard C. Pintard will head the office.

ROSEBURY

Expands Gravure Activity — The Cottrell Company, Sub. of Harris - Seybold Co. will expand gravure activity under an exclusive arrangement with Goebel Company, Darmstadt, Germany. Equipment includes Goebel's Regent and Regina multicolor rotogravure presses, and Goebel's line of slitting and rewinding equipment. Also announced was appointment of Richard W. Rosebury as manager, rotogravure and slitting machinery sales. He was formerly with the E. G. Staude Mfg. Co., Inc. and American Type Founders.

ATF Appointments—William Taylor was appointed manager of the Chicago branch of American Type Founders Co., Inc. He succeeds Arthur R. Bink who will be regional manager for the Cleveland region in the Web-Fed Division. Henry E. Owens has been appointed Atlanta (Ga.) branch manager. Also announced was that Walter Kubilius has been appointed assistant to advertising manager. He will work with Rod Greig, advertising manager, and was formerly research editor for *Book Production* magazine, the New York (N.Y.) *Sun* and the Chicago *Herald American*.

No matter what the job...

WOODSMAN *serves you best!*

Sintered Tungsten-Titanium-Carbide, 91.5 Rockwell A scale hardness, the most wear resistant metal mastered by man, molded and fitted into a precision perfect blade, superfinished by diamond lapping with the original WOODSMAN MAGNI-SHARP process . . . *This is* WOODSMAN . . . the finest carbide tipped blade ever introduced to the graphic arts industry!

Stereotyper, compositor, electrotyper or engraver — no matter what your job — whether you're cutting zinc, copper, plastic or wood, WOODSMAN is your guarantee of performance unmatched. *Write for details, brochure, demonstration.*

NORTH AMERICAN PRODUCTS CORP.

P. O. Box 201 C Edwardsville, Ill.

For More Information Circle 135 on Reader Service Card

take the GUESS
out of buying
Press Lubricants!

PLAY SAFE
BY SPECIFYING . . .

ALBANY
LUBRICANTS

for new equipment . . .
for older equipment

ALBANY TALLOW LUBRICANTS ARE THREE TIMES AS EFFECTIVE AS ORDINARY LUBRICANTS.

- ALBANY GREASE NO. 3 . . . . for presses equipped with grease cups.
- ALBANY SOFT PRESSURE GREASE . . . . for presses equipped with pressure fittings.
- ALBANY VISCOUS PRESS OIL . . . for oil-lubricated presses.
- ALBANY LUBRICANT NO. 93 . . . for gears, cams, chain drives on all types of presses.

Write Today for Service Bulletin No. 10

ADAM COOK'S SONS, INC.
Mfrs. of Lubricating Products since 1868 LINDEN, NEW JERSEY

For More Information Circle 44 on Reader Service Card

A HEADLINE WITH ProType
(it's a "type foundry" at your fingertips!)

- Simple to use—and fun!
- Does anything possible with type—and more!
- Low cost . . . saves hundreds of dollars yearly . . . pays for itself!
- 10,000 type styles and sizes!
- Perfect for ads, layouts, presentations, magazines, posters, bulletins!

Exclusive Distributors
Mergenthaler Linotype Company
Davidson Corporation
29 Ryerson Street, Brooklyn 5, N. Y.

Please send your free folder on economical ProType.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

FREE! SEND NOW FOR THIS BIG FOLDER!

For More Information Circle 193 on Reader Service Card

Intertype Appointments—Vincent B. Morrison, jr., has been named Intertype Corporation's representative for the Southern Manhattan territory in New York, N.Y. The same company also appointed Albert F. Lahaie as a representative in the New England area serving Maine, New Hampshire and Vermont. Lahaie formerly was with the Laconia (N. H.) *Evening Citizen*.

MORRISON LAHAIE

Michael Huber Named President—At the meeting of the board of directors of J. M. Huber Corp., Hans W. Huber was elected chairman and Michael W. Huber, president. Hans Huber has been with the company since 1918 and president since 1933. Michael Huber joined the company in 1949.

M. HUBER

Keller Renews Lease—George R. Keller, Inc., has renewed a lease on its present quarters in Washington, D. C., and has made extensive improvements in its offices and warehouse. A lease on its Charlotte, N. C., offices has also been renewed.

Skogen Named Manager — Intertype Corporation has named Sheridan S. Skogen to the position of Manager, Fotosetter Field Div. Skogen has presented talks on the Fotosetter and various phases of the Graphic Arts industry to advertising, trade and union organizations, mechanical conferences and conventions through the Midwestern and Western sections of the country. He began his career in North Dakota. He started as foreman of two combined commercial and weekly newspaper plants. Later he became mechanical superintendent and then assistant manager of the *Adams County Record*, the post he held prior to joining Intertype. As Fotosetter representative for Intertype's Midwestern District, with headquarters in Chicago, Skogen was responsible for all phases of Fotosetter promotion in the area.

SKOGEN

STEREOTYPERS
PRE SHRINK AND FLAT
DRY MATRIX SCORCHER

THERMOSTAT HEAT CONTROL

PRE SHRINK ATTACHMENT

NO SLAM COVER

VACUUM EXHAUST TO EXPEL MOISTURE

ASK ABOUT OUR METAL PUMP

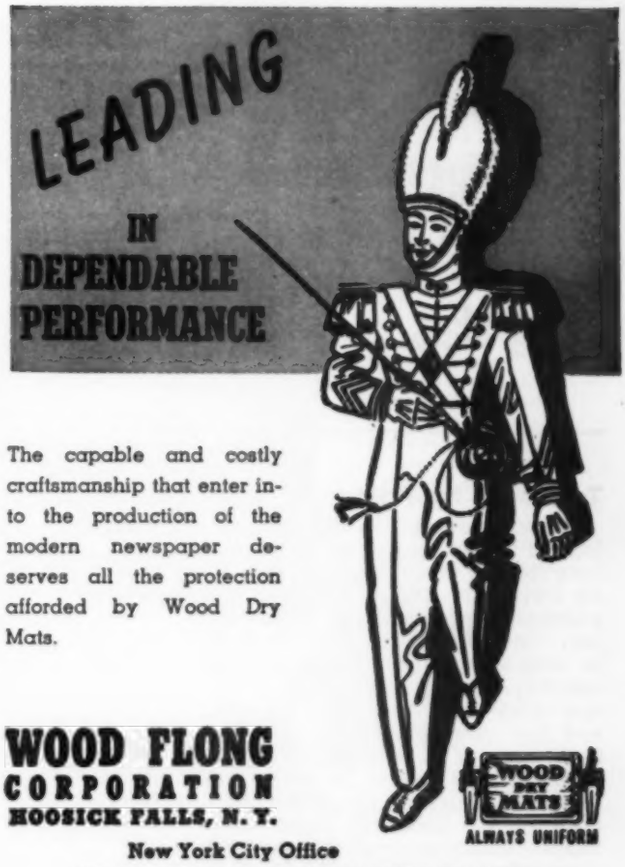
PAPER ROLL LIFT AND REWIND

PHOTO DRYER

OUR LOW COST DRY MATS

A.P.S., INC.
Newspaper Equipment and Supplies
50 B Salem St. Lynnfield, Mass.

For More Information Circle 8 on Reader Service Card



The capable and costly craftsmanship that enter into the production of the modern newspaper deserves all the protection afforded by Wood Dry Mats.

WOOD FLONG
CORPORATION
HOOSICK FALLS, N. Y.

WOOD DRY MATS
ALWAYS UNIFORM

New York City Office
551 FIFTH AVENUE, NEW YORK 17, N. Y.

For More Information Circle 189 on Reader Service Card

SMALL

Paper Converting Appointment—R. E. Small has been advanced from the position of sales manager to vice president for sales of Paper Converting Machine Co. Small joined Paper Converting in 1947.

Arnold E. Rogers has been elected president of Rogers Engraving Co., Inc., New York, N.Y. He formerly was technical director and secretary of the corporation. Leo M. Rogers, former president, becomes chairman of the board.

GIBSON

Chemco Sales Staff—J. E. Gibson was recently appointed to Chemco Photoproducts Co.'s sales staff as announced by Sam B. Anson, jr., general sales manager. Gibson will be headquartered at the Atlanta, Ga., offices and will serve the Southeastern territory. He was formerly with Thaxton and Simons Laboratories, Foot & Davies, Inc., and Lithoplate, Incorporated.

Matrix Contrast Changes—Matrix Contrast Corp. has announced a division of its operations into two territories. Gerald W. Hunter is in charge of sales and service in the Eastern territory with headquarters at 154 W. 14th St., New York, N.Y. Jack Farris acts in the same capacity for the Western territory with headquarters at 326 W. Madison Ave., Chicago. In the Eastern territory, Henry Curlander has been made vice president covering sales from Pennsylvania east to New England. George Mattice was named salesman. In the Western territory, William J. O'Toole has been elected vice president.

CURLANDER MATTICE O'TOOLE

Ten 3M Promotions—Ten promotions were announced within the technical section of the printing products division of Minnesota Mining & Mfg. Co. recently by E. J. Kane, division general manager. Melvin L. Gebhard, with 3M since 1928, has been promoted to technical director and will head the research section. Dr. John F. Dowdall, with 3M since 1946, is now manager of research and product control, and Dr. Robert N. Flesch, with the company since 1950, is new products manager. Other promotions were: Dr. Robert W. Perlich, supervisor of new products research; Robert B. Kincaid, technical service supervisor; John M. Case, supervisor of lithographic products research; Leonard J. Druker, supervisor of letterpress products research; Dr. Gerald W. Larson, supervisor of basic research; Walter A. Sjoberg, pilot plant supervisor; Lyle H. Chandler, quality control supervisor.

GEBHARD DOWDALL FLESCH

Guinea Pigs and Dry Mats...

● Guinea Pigs are symbolical of experiments. A stereotyper could experiment with half a dozen brands of mats and possibly get a dozen varying results. But why make a Guinea Pig of your operations? Have Beveridge Improved Mats take the gamble out of mat buying. Standardize on Beveridge and get the best results possible for your work. That goes for either syndicate or newspaper work. One order will convince you.

Beveridge Dry Mats

New Products Division

THE BEVERIDGE PAPER CO.

Indianapolis 4, Indiana

For More Information Circle 20 on Reader Service Card

To Benefit the Printer

A new concept in the marketing of paper products has been launched by Mead Papers, Inc., in its three-part 1957 advertising and promotion program for white paper. The program will be directed to end-users (the printer's customer), printing management and operators—the men who specify and buy printing papers. For the first time, it is thought, a paper company will devote its entire advertising program to printer benefits rather than the paper merchant. The theme of the national campaign is *To Make the Most of the Power of Print, Know Your Printer Better.* Its objective is to enhance the role of the printer, and to make his customers realize his importance and value to them.

Photocomposition Talks

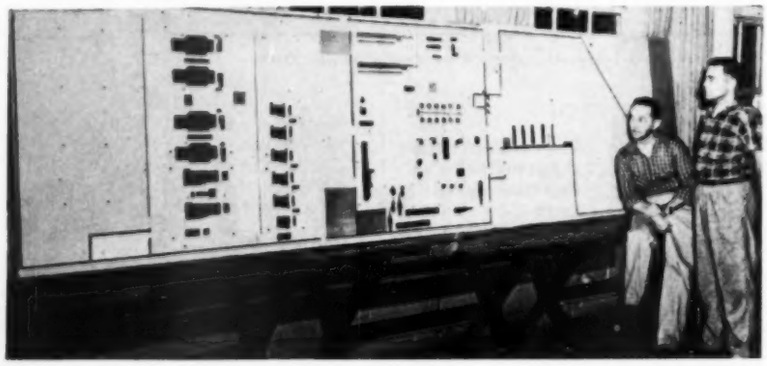
(Continued from Page 31)

necessary in making ad pasteups of photographic composition.

Burt Mader, engraving superintendent, *Christian Science Monitor,* asked if paper positives were more desirable to work from than film. The South Bend (Ind.) *Tribune* uses photographic paper and according to George Kunz, its production manager, it has worked out successfully and everyone is satisfied. Frank Dassori, production manager, Boston *Herald Traveler,* reported they are using both film and paper from Photon and Fotosetter machines installed in that plant. He said they will later try to make a direct comparison as to whether film is best suitable.

Allen M. Woods, production manager, Garden City (N.Y.) *Newsday,* queried Schurz as to whether he would go about installing the photocomposition process in the same way if he were to do it over again. Schurz replied that the first thing he found was to consult with the employees in order to gain their confidence. He has found from experience that it is wise to do this once every six months. He usually goes into every department within the plant and talks with the men. This, he said, makes them feel more important and usually wins their confidence. Schurz said he did not think it wise to make a separate department for photocomposition operation. At the *Tribune* they have found more flexibility by establishing photocomposition as composing room operation.

There was some discussion about maintenance of photocomposition machines. Dassori remarked they have found a machinist can maintain the



Plimpton Press Expansion—Studying the template layout of the recently completed addition to the textbook publishing plant of Plimpton Press, La Porte, Ind., are Dick Frain, industrial engineer, and Russ Williams, plant manager. Included in the layout are two new 76 in. Miehle two-color rotary letterpresses. Two additional units are scheduled for future installation. New bindery equipment includes a Dexter Double 16 and two Dexter N Quad folders.

PRODUCTION PRODUCTS FOR THE GRAPHIC ARTS

Chesley F. Carlson Company

CARLSON HI-LO NEWSPAPER CHASE CARLSON SHELL PLATE FINISHER

Sold by the finest representatives in the newspaper field.

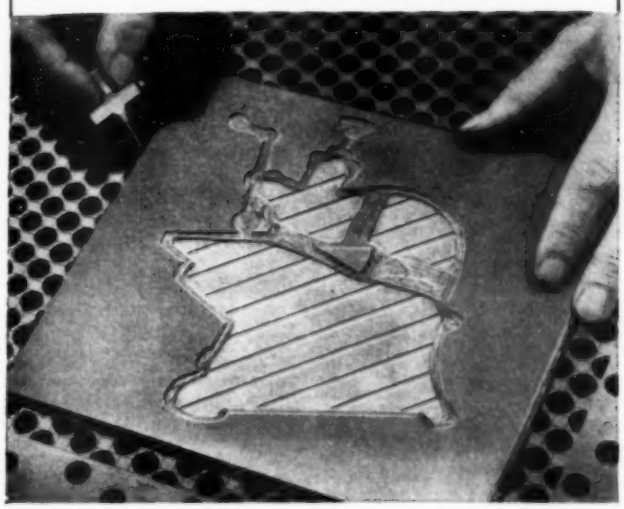
BEN FRANKLIN BUILDING / MINNEAPOLIS 15, MINNESOTA

For More Information Circle 33 on Reader Service Card

PMC STERLING TOGGLE BASE

Precision ground to give an accuracy unequalled by other methods of machining PMC Sterling Toggle Base in magnesium or semi-steel simplifies lock-up—saves time—increases profits.

THE PRINTING MACHINERY CO.
436 Commercial Square
Cincinnati 2, Ohio



For More Information Circle 147 on Reader Service Card

ANOTHER NOLAN TIME-SAVER
REMELT FURNACE

CUT REMELTING TIME IN HALF . . . with a Nolan Remelt Furnace. Melts a full pot in less than two hours . . . additional loads in one hour. Maintains exactly any heat desired. Saves metal . . . less oxidation, less dross. Fits anywhere in less space. Gas or electrically heated. Capacities of 600 lbs., 1 ton, 2 tons or larger . . . built to customer specifications.

KEEP ROLLIN'
BUY NOLAN

Write, wire or phone for complete information.

NOLAN Corporation
Dept. 727
Rome, New York

For More Information Circle 133 on Reader Service Card

Fotosetter, but they have need of a skilled electrician for similar maintenance on the Photon machine.

Reports on Linofilm System

A description of the Linofilm system was furnished by Herbert O'Sullivan, Mergenthaler Linotype Co. With the aid of slides he described the four basic components of the system—the keyboard unit, photographic unit, corrector and the composer. The range of the Linofilm system is from 3 to 108 pts. in widths through 96 picas. Speed of the keyboard unit is that of an electric typewriter and imposes no speed limitations on the operator. Speed of the photographic unit is over 15 newspaper lines per min., he claimed. He also claimed that corrections can be made at speeds up to 3 lines per min., and the composer combines makeup and enlarging functions in a single unit, producing copy ready for the platemaking process.

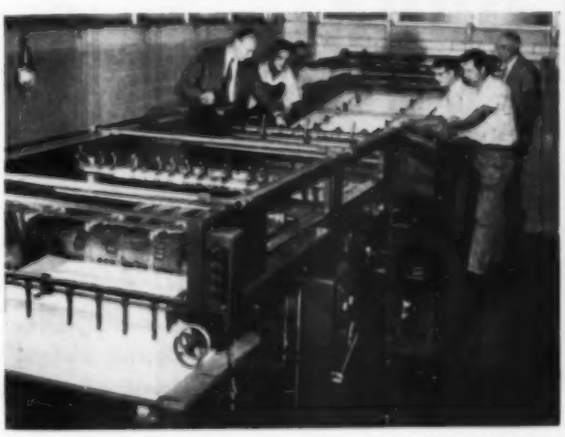
The first newspaper to use the Linofilm system is the New York (N.Y.) *Daily News*. A report of field testing of this equipment was provided by William Ross of the *Daily News*' composing room. One interesting part of Ross' talk dealt with proofreading photocomposed material. He said it was thought the typewritten record of what had been composed could be used as a proof suitable for reading with the original copy. It was soon found such practice would be impractical.

The typewritten record shows the characters struck plus justifying spaces. It does not show type sizes, incidental spacing, type styles or typographic effects. Since these are all needed in proofreading ads, it was clear that the proofreader could not read from the typewritten sheet.

For proofreading purposes, the *Daily News* sends the punched tape through the photo unit twice, keeping one copy for pasteup and using the other for proofreading. In rotogravure work, they make two copies, one for the proof room and the other for editorial revision. When both copies are returned to the composing room, they make necessary corrections and alterations at the keyboard. The original tape is taken to the tape splicer; the bad lines are removed and the good lines are spliced in. The tape is then run through the photo unit four times. This method provides the rotogravure department with four new copies which they use for separate country and city editions.

Referring to training personnel in using the Linofilm system, Ross related that the *News* purchased three electric typewriters for use in keyboard training. Three operators from the composing room were selected for training and were given a typing course of 4 hrs. a day for 10 wks., a total of 200 hrs. He said the training period was found to be too long and suggested 2 hrs. a day for 10 wks. would be much better. The speaker added that after the training period the men were typing an average of 50 words per min. A two week period spent at Mergenthaler Linotype Co.'s plant pro-

First Tirfing Press In U.S. — Indiana State Teachers College, Terre Haute, Ind., was the first to install a Tirfing press in this country. The Swedish 31 in. by 41 in. two-revolution letterpress will be used for the production of the University's printed matter and for instruction purposes in its Printing School, according to Sylvian Yager, Associate Professor of the Industrial Education Dept. The press was secured through Turner Printing Machinery, Inc.



CHAS. T. MAIN, INC.

Engineers Since 1893

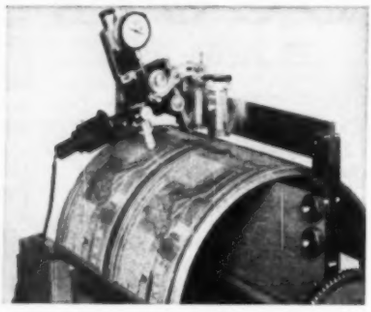
ECONOMIC STUDIES, PROCESS STUDIES, DESIGN, SPECIFICATIONS
PROCUREMENT AND CONSTRUCTION SUPERVISION
FOR

NEWSPAPER AND PRINTING PLANTS

80 Federal St. Boston, Mass.
317 South Tryon St. Charlotte, N. C.

For More Information Circle 110 on Reader Service Card

NEW COMPLETE INSPECTION INSTRUMENT



for
CURVED AND FLAT PRINTING PLATES AND MATERIALS . . .

- *Thickness* • *Width* • *Color Register*
- DEPTH in Halftones
- Bowls of letters, space depth, shoulders in plates, engravings, mats, lines of type, matrices, electros, plastics, etc.

ALICO, INC.
MONTAGUE, MASS.

For More Information Circle 5 on Reader Service Card

vided familiarization with the various Linofilm units.

Another speaker, Joseph Budai, composing room superintendent, Cincinnati (O.) *Enquirer,* provided the conference a report on *Composing Room Control for Mat-Pak.* Mat-Pak is a packless matrix material used in stereotype molding operations. He emphasized the necessity of making type and cuts at a precise 0.918 in. He admitted a slight tolerance, but at best he said this was only 0.001 in. above or below type high.

Budai related how it was necessary for the composing room machinists to go over every typesetting machine to meet the 0.918 in. requirement. He said this means a weekly inspection system as well as a spot check of machines if trouble shows in the printed page. In using Mat-Pak, the *Enquirer* also had to change its base for both shell and zinc cuts for advertising work. He said Elrod bases stand up well under required pressures.

Inspection of all Ludlow machines and case type were also necessary. A daily inspection system is necessary to determine whether repeat ads remain in a printable state at all times. Shell casts have to be 0.154 in.—no more or no less. On new cuts, the *Enquirer* uses 0.064 in. zinc. Stereo base is used for all new cuts. Bases must be a precise 0.854 in.

The speaker reminded the audience that Mat-Pak does not erase or gloss over inferior printing. He said it points up each weak spot on the page—rules, porous slugs, low base, high cuts, low or high rules, and worn out ads. The printed page after using Mat-Pak glaringly shows all defects, he added. Budai predicted that Mat-Pak or some other form of packless molding material is here to stay.

Composing Room Planning

More Space in Your Composing Room was the title of a talk given by Hans Rosberg, production manager, San Jose (Calif.) *Mercury* and *News.* He cautioned that in any form of plant planning not to try to do the job yourself. He suggested supply company representatives, department heads and employees as excellent sources from whom to obtain ideas.

Rosberg named the basic principles of plant layout for efficient production as follows: (1) Direct progress of work toward its destination. (2) Minimum distances between successive operations. (3) Convenient location of Ludlow machines, casting seldom used on very large faces, storage facilities (properly labeled) for work and supplies, and of auxiliary equipment such as saws and mitering machines. (4) Strategic locations for supervisory and service personnel.

He said it was important that work take a direct route from one point in the plant to another. Walking should be minimized between working points as much as possible. Service functions should be located in accessible areas. He said it is as important to keep the machinists from walking too far as it is for makeup men, ad men and operators.

Literature

(Continued from Page 20)

CARBON-INTERLEAVED FORMS

Printers can let customers test various combinations of one-time carbon paper and stocks in business forms up to 12 parts by means of unit sets offered without charge by American Carbon Paper Corp. Six different test sets of eight parts demonstrate Tara one-time carbons interleaved with either or both super calendered opaque with 12 lb. Register bond. A seventh set consists of a 12 part unit. Circle No. 7-320 on Reader Service Card.

MAIL ADVERTISING IDEAS

A new *Idea File for Mail Advertising and Mailing Methods,* intended to show the use of Linton Bristols, is available from Linton Bros. & Co. Enclosed in a canary yellow file folder, the kit consists of eight 8½ in. by 11 in. pieces each printed on different colored sheets. Each sheet contains sales ideas for selling potential users of mail advertising plus thumbnail sketches of adaptations of these ideas. Circle No. 7-316 on Reader Service Card.

COLOR VIEWING BULLETIN

Announcing its complete line of standardized lighting equipment for color proofing and viewing, Macbeth Daylighting Corp. has published a four page bulletin. Equipment is for use by client or buyer, art director, advertising agency, platemaker, printer or publisher. A discussion regarding daylight with charts to show similarity of moderately overcast North daylight and Macbeth simulated North daylight are fully explained. Lighting equipment required together with installation instructions are given. Circle No. 7-326 on Reader Service Card.

DURAL CHASES *Why Not Have the Best* ?

The most popular and the finest Stereotype Chase on the Market!

BEARD NEWSPRINT & WAREHOUSE CO., INC.
8761 Fulton St. Detroit, Michigan

For More Information Circle 19 on Reader Service Card

Mechanism of the Linotype and Intertype

Written for Machinist-Operators, Machinists, Superintendents and Students

Technical operating knowledge of the Linotype and Intertype is available in the 14th edition of this 334 page book. Revised and amplified by Oscar R. Abel and Windsor A. Straw, the text includes 200 illustrations. Information has been added about late improvements in the machines. A practical and essential book for every composing room.

$5.15 per copy
(Cash with order.)
Postpaid in U.S.A. only

PRINTING EQUIPMENT *Engineer*
1276 W. 3rd St., Cleveland 13, O.

Roll-Wound Paper

Efficiency Expansion Chucks

In one operation, lever the cam and lock it. It won't slip —ever. Unwind, rewind, or brake easily. There are efficiency expansion chucks for either fibre or steel cores up to ten inches in diameter—for shafts of 1" to 3½" in diameter in graduations of 1/16".

Chucks are inter-changeable—no rights or lefts. Give years of service—made of malleable high strength castings. Surfaces which contact core are precision machined. Lever action applies powerful force to the expansion jaws. Ribbed jaws bite firmly into core, eliminating core slippage when starting or changing speeds, even under extreme brake tension.

Write for the full time and money saving facts to—

VALLEY MFG. CO. Valley, Nebraska

For More Information Circle 197 on Reader Service Card

All the gossip—

all the bargains

dished up before the supper time rush, giving Mama a chance to astonish Dad with the things she knows about before he did. . . Mama is going to stick to the paper that is on the doorstep early—often the paper that is printed with the aid of easy molding, quick scorching, clear printing Certified Mats.

For dependable stereotyping rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 535 Fifth Avenue, Dept. M, New York 17, N. Y.

For More Information Circle 36 on Reader Service Card

Herrell Passes—Russell H. Herrell, 62, passed away at Garfield Memorial Hospital, Washington, D. C., on Monday, May 27. Death was caused by a cerebral hemorrhage. He was a member of the District of Columbia Bar. He joined the U. S. Treasury Department after his discharge from the Army following World War I. He transferred to the Government Printing Office in 1934, and served as comptroller until he was made administrative assistant to A. E. Giegengack, Public Printer of the United States. He resigned that position in 1950 to accept appointment as assistant to the president of National Graphic Arts Expositions, Inc. Since that time Herrell served in consultant posts with private firms, the U. S. Chamber of Commerce and the Treasury Department. He is survived by his widow, Mrs. Imogene Talley Herrell and three sisters and two brothers. He was buried in Arlington National Cemetery with full military rites on Friday, May 31.

ANPA Conference Opening

(Continued from page 29)

lack of proper communication.

Foremen, he said, are faced with a shortage of manpower from now until 1965 during which there will be almost no net increase of men 25-44 yrs. of age available. He called it a serious problem to all businesses and warned the newspaper trade will be competing against other industries for these men.

According to LaBlanc, the alternatives of this worker shortage situation are as follows: (1) Foremen can train marginal men in their own organization and develop their own staffs. (2) Use automation to meet the needs of increased production. (3) Use more women to fill non-skilled jobs. He pointed out more females are entering industry.

The RIA speaker named the following as needs of a foreman: He must be given security; social approval; self respect; equipped to supply leadership; and opportunity to advance.

He said sudden changes, breakdown of communications, and failure to let men know where they stand could be listed as some of the areas of conflict with which the foreman must contend.

LaBlanc offered the following procedure for handling complaints: (1) Relax—this will encourage the worker to also relax to tell you his story. (2) Listen—show him courtesy and encourage him to talk. (3) Concede —agree to a certain point but don't concede too much. The purpose of these first three steps is to disarm the employee. (4) Question the worker—dig out more facts and inquire whether he has told the complete story. (5) Qualify—ask how long the situation has been going on. (6)

Howard Flint Ink Factory—Kansas City, Mo., now has the nation's 15th factory of The Howard Flint Ink Co. Located at 2501 Southwest Blvd., this 21,000 sq. ft. new plant is served by a private siding of the Frisco Railroad. Modern mills, blenders and mixers have been installed to manufacture all grades of inks including flexographic and newspaper black and colors. R. Boyd Thompson, manager of this new plant, previously managed the Kansas City plant of the Chas. E. Johnson Ink Co. for 30 years.

TROLLEY'S THE THING!

●Wrap-ups due to web breaks in long folder and color leads are hard to prevent, that is, if you don't have COOKSEY SYSTEM TROLLEYS.

Investigate the Cooksey System Today

KORTHE ENGINEERING CO.

9353 Seymour Ave., Schiller Park, Illinois

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RUSSELL E. BAUM, INC.

WORLD'S FINEST FASTEST FOLDERS

FROM 14 x 20 TO 39 x 52

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Mechanically qualified to meet exacting needs for fine color work...

Crowell-Collier plant:

- Miehle 41 Two Color unit
- Miehle 3/0 Two Colors 62"
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- Seybold 4-VA Tumbler Trimmers

In Washington, D. C. and Chicago:

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- Miller TW 21x28, 2 color current model, comparable to new
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- Cleveland 00, 22x28 folder
- Baum 322, 22x28 automatic
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TYPE & PRESS
of Illinois Inc.
3312 N. Ravenswood Avenue, Chicago 13
A trustworthy name in the trade

Circle 177 on Reader Service Card

Capitalize—make use of the information uncovered; suggest a solution.

MacKinnon Explains INO

An illustrated report on how the methods engineering and training programs of Institute of Newspaper Operations are being fitted into the ANPA Research Institute's program was furnished by C. L. MacKinnon, ANPA Research Institute, Chicago. He said all three programs, including laboratory research, will depend on cooperation and support from mechanical executives.

Part of MacKinnon's talk was devoted to describing the development of Mak Pak, a packless stereo mat molding material. He followed its development from a laboratory product to the point where it has assumed production usefulness.

According to the speaker, training is a major INO activity. One of the best ways to get good quality out of your present plant, he said, is for employees to understand the equipment they use. The answer is, he added, professionally designed training material and techniques, and an experienced man from your plant to do the actual teaching.

MacKinnon told how these training activities are based on the fact that the craftsman wants to understand why he performs the operation required in his work. Continuing, he said, even the older craftsmen have been anxious to learn the "why" in order that he can arrive at a proper understanding of the "how."

The speaker remarked: "The secret to the success of the press training program is not that we teach something new to the men. They know how to run the press. However, we do ask the men to look at the press in a different way, so that when men go over the press drive they discover for themselves parts, relationships and functions that they have seen but never noticed." He suggested a slogan for the program as: "Analyze—don't memorize."

Advises Changing Papers

(Continued from Page 23)

problems: the loss of readership and the potential loss of ad dollars.

Future Newspaper Size

The Inventive Mind might start with your newspaper's size. Why is your newspaper page the size that it is? Is it because it is a convenient size for the reader? Or because that's the size it always has been? Watching a commuter as he reads his paper on a train or subway right here in Chicago will give you the answer to that. He has to fold his paper back in order to be able to read it at all in the dense crowds. And lest you men from less crowded metropolitan areas than New York, Chicago, and Los Angeles think this does not apply to you, remember that even the wide open spaces of the west and southwest are becoming more congested everyday.

If there is a trend toward miniaturization, if that is what the public

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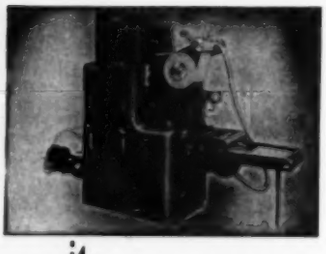

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Pre-Press Equipment

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MORE
FACTS?

SE THE CARD

'S
FFICIENT,
AST AND EASY

This postage-paid card is for your convenience in requesting further information on any item in this issue of PRINTING EQUIPMENT Engineer. Circle the item number for any item described or advertised in this issue. The information will be sent to you promptly.

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PLEASE PRINT OR TYPE

Name and Title_____

Company Name_____

Company Address_____

City_____ Zone____ State_____

JULY '57

FOR YOUR CONVENIENCE . . .

This postage-paid card is for your convenience in requesting more facts on any item in this issue

PRINTING EQUIPMENT *Engineer*

FIRST CLASS
PERMIT NO. 2205
CLEVELAND, OHIO

BUSINESS REPLY CARD
No Postage Necessary If Mailed In the United States

4¢ POSTAGE WILL BE PAID BY

PRINTING EQUIPMENT *Engineer*
1276 WEST 3rd STREET
CLEVELAND 13, OHIO

READER SERVICE DEPARTMENT

CLASSIFIED Advertising

ALL CLASSIFICATIONS

$.75 per line 1 9/16" wide. Minimum ad 5 lines. 25 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

FOR SALE

PRINTING AND LITHOGRAPHING PLANT. Owing to poor health I am forced to sell my plant. 7,500 sq. ft. of floor space located in southern Ohio. Terms—$25,000 cash down, balance $250 per month for 5 years. You to own everything at end of 5 years. Write Box 554, PRINTING EQUIPMENT Engineer.

HAVE YOU MOVED?
ARE YOU GOING TO?

To be sure that you'll keep receiving P. E. E., be sure and send us your new address along with your name, company name and the "key" number from your P. E. E. address plate.

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Color critic to take charge of high speed multicolor heatset and web, five color rotary and sheet fed pressroom. Large edition publications. EAST $10,000-$15,000.

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Complete knowledge of Side Wire Gathering Machine and Sheridan inserters. Full charge of publication bindery. EAST $10,000-$12,000. These positions require fully experienced men. For prompt referral write today to:

GRAPHIC ARTS EMPLOYMENT SERVICE

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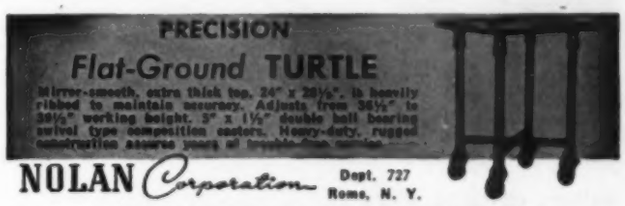
FOR SALE
35 x 45 HARRIS (LUD) OFFSET PRESS
SERIAL #133—THREE YEARS OLD
MAX. SHEET 38 x 48 PLATE SIZE 40 x 48

Complete with Oxy-Dry Spray and Baldwin Washup Machine 3-Phase Cutler-Hammer Controls, Extra Rollers, Dampeners and Ductors. This Press has been replaced with 2-color equipment.

D. A. Droining, 111 S. LaBrea Ave., Los Angeles 36, Cal.—WEbster 8-2511



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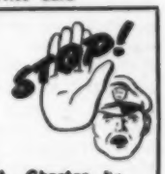
QUICKSET INK CONDITIONER
TRIK®
for work-&-turn litho and letterpress . . .
eliminates messy non-offset spray.
Send for Price List
1 lb. can $2.20
CENTRAL COMPOUNDING COMPANY
1723 N. Damen Ave. • Chicago 47, Illinois
Mfrs. of Glazcote, 20/20 Overprint Varnish, 33 & 0-33 Ink Conditioners

For More Information Circle 34 on Reader Service Card

STOP HAIR LINES BEFORE & AFTER THEY START

Save time and prolong the use of fonts of mats with crushed sidewalls.

The **HARTCO SYSTEM** protects spacebands . . . keeps sidewalls perfect and permits type metal to fill in crushed sidewalls.



HARTCO MFG. COMPANY 224 Meade St., Chester, Pa.

For More Information Circle 83 on Reader Service Card

What Have You Devised? As a production and/or mechanical executive, our readers will be pleased to learn about something you have devised to improve plant operation. Just write informally to Editor, PRINTING EQUIPMENT *Engineer*, 1276 W. Third St., Cleveland 13, Ohio.

wants—and certainly it seems to be—then why not give your reader what he wants? Is there anything other than precedent that says our newspapers should not take on the form of a daily news magazine? Certainly the change-over might prove costly but if a smaller sheet is what the reader wants, the change would surely prove less costly than the complete extinction that would come from not making it.

Another practice the Inventive Mind would question is that of reading habits. With a page one carry-over buried somewhere in the depths of a paper, how many readers bother to finish the story? Very few, we would say, and already some editors are seriously trying to reduce the number of carry-over to inside pages.

The Inventive Mind would also question the use of color, for he would know that color rules our lives today.

Color Not for Advertiser Alone

Color cannot be for the advertiser alone. Four color pictures must be scattered throughout your papers, to give new life, new interest to your product. News pages must glow with color to tell headline stories dramatically. Fashion and food sections must have color illustrations, for black and white no longer entice your women readers.

Easy-to-Read Typography

The Inventive Mind certainly will question the typography in today's newspapers. He will rightly question the ease of reading those tightly-packed columns, and publishers' attempts to squeeze a larger type face into a small measure, the way many of you are doing today. If a newspaper is to be read at the pace at which we are living, the Inventive Mind will reason, why not make it easy to read?

Certainly each time the newsprint mills raise their prices, the Inventive Mind would seriously consider the advisability of reducing the column width, as being done today. Now that some of you are going to 11 picas, what will happen next year and the years following as the paper mills add $4 a ton. Will you continue to reduce the measure, or will you resort to drastically reducing the size of the type face? I think you will agree, neither one is the correct solution to your problem.

We now know the trend toward large type sizes is unmistakable. The Des Moines (Ia.) *Register*, the Minneapolis (Minn.) *Star* and many other newspapers have switched to 9 pt. and now call the larger type face one of the most appreciated improvements made in many years.

Wider Columns

Considering this, how can anyone give serious thought to reducing the column width? Shouldn't we instead propose setting the copy in 10 pt., leaded 2 pts. — 15 picas wide, 6 columns with 1 pica of white space between the columns? Sure it would be a revolutionary look, but maybe a revolution is what the newspaper business needs.

Then, having corrected these individual elements, the Inventive Mind will set about combining their new counterparts in interesting makeup. He will scatter large and dramatic photographs throughout your pages. He will replace the stereotyped monotony of today's newspaper pages with variety, and he will keep that

Visitors at ANPA Lab—American Newspaper Publishers Assoc. Research Institute, Easton, Pa., was host to a large group of visitors attending the recent Technical Assoc. of the Graphic Arts and Research and Engineering Council meetings in Philadelphia. One of the groups which made the ANPA tour is seen entering the laboratory building. The visitors were shown some of the research work being conducted for the newspaper printing industry.

pattern changing constantly to prevent his readers—and his staff—from going stale.

What New Typographic Director Will Do

It will be the business of the future director of design constantly to improve the appearance of your paper. He will be concerned not only with the layout and typography of your news columns, but with the improved appearance of your advertising pages as well. On the editorial side, your director of design and typography will simplify the headings of your newspaper in such a way that you will need just a few sizes of modern headletter type in both roman and italic. He will avoid the big, bold streamer headlines because it will no longer be necessary for the paper to scream at the top of its voice. On occasion, he may use magazine type makeup, with wider columns and attractive art and picture layouts. He will make news stories more vivid by illustrating them with photographs, charts, drawings, diagrams. He will employ new type faces; insist upon more white space, design a new name plate, and make all headings exciting. He will make your newspaper so fresh, so exciting, so interesting and convenient that the public will be happy to pay 15c or 20c for a copy, because then you will be giving the reader what he wants.

This new director of design and typography will enter the advertising picture, too. He will no longer tolerate solid pages of black type. He will refuse to run reverse plates and heavy borders. He will stack the ads neatly and squared off, rather than in the confusing jig-saw in which they appear today. He will explain successfully to your advertisers that he is enforcing these changes in order to give the reader a product he wants, and a product the reader wants is certainly what the advertiser demands.

In a paper that is what the reader wants, it should not be hard to prove that an attractive ad with a 36 pt. price will draw a customer more successfully than a black ad whose price is set in 96 pt. bold.

When we look at all of these changes together, what has the Inventive Mine done? He has started by making changes to fit the tempo of our times.

There is only one difference between the Inventive Mind as we've pictured him, and the minds that master most of our publishing business today.

The future of your vast industry demands courage. Courage to forget the past and to look to the future. Courage to junk much of your present equipment and most of your present thinking. Courage to change the entire structure of your product, and the manner in which it is produced. And courage, above all, to keep changing with our changing times so that your newspapers will forever stand as institutions of this land.

Installs 76 in. Miehle Offset Press—Monitor Press, New York, N. Y., has installed a new four-color 76 in. Miehle offset press. The press is mounted on 12 in. I-beams supported by lally columns on the floor below. The columns, in turn, rest on a framework of 8 in. I-beams. Left to right in the picture are: Carlton Mellick, Miehle vice president; George Hofrichter, vice president of Parish Press (an affiliate of Monitor); and David Gross, Monitor vice president.

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JULY 1957

P. E. E. REPRESENTATIVES

PAUL B. HOLDER, Advertising and Promotion, 1276 West Third St., Cleveland 13, O. Phone PRospect 1-0088.

WILLIAM L. OSBORN, Eastern Advertising Representative, 2709 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Advertising Representative, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

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Hammond Glider TRIMOSAW

"THE SAW WITH THE BALL BEARING TABLE"

ALSO 2 OTHER *Glider* TRIMOSAWS AVAILABLE

Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

For More Information Circle 79 on Reader Service Card

It Doesn't Pay to Operate an Old Machine

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Are your maintenance costs too high? Isn't downtime excessive? Are the slugs they are casting of good quality? Are the magazines and molds interchangeable with your newer equipment? How much longer will these old machines run before important parts may need replacement?

Your old machines are not equipped with time-saving improvements such as Partlow temperature controls, Visilite magazines, oil cushions, gearless V-belt motor drive, six-mold disk, finger-flip mixer shift and automatic quadder. These features, plus greater reliability and ease of operation which new Intertype machines provide, will increase your production.

Ask your Intertype representative to analyze your operation. He will point the way to lower composing room costs through a planned program of replacement.

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